2001/2002 Resource Management Plan
for the Vancouver Forest Region

FOREST SERVICE
BRITISH COLUMBIA

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2001/2002 Resource Management Plan for the Vancouver Forest Region

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Overview:

The Resource Management Plan (RMP) addresses land-based activities from the perspective of biological needs and forest resource management priorities. The plan forms a compendium of priorities determined by BC Ministry of Forests (MOF), BC Ministry of Environment, Lands and Parks (MELP), major licensees, woodlot licensees, and other stakeholders. The RMP is designed to provide guidance to all agencies within the forest sector in British Columbia to determine the best activities for investment, regardless of the funding source or the agency actually completing the work.

The 2001/2001 RMP expands and improves upon previous Resource Management Plans. Over the course of Forest Renewal BC's existence Funding for various activities and programs has changed. Much of what was previously eligible for Forest Renewal BC funding is now not. This RMP presents priority opportunities regardless of funding source or eligibility and as such demonstrates a direct funding need for those programs and activities that are not eligible for Forest Renewal BC funding. Should funding not be provided for the Forest Renewal BC ineligible program, those works will, in all likelihood, not occur.

General Strategy:

The Resource Management Plan for the Vancouver Forest Region examines land-based resource needs and priorities in terms of:

- Commitments, recommendations, and links to other land and resource management plans.
- The long-term resource implications of current investments.
- The value, risks, and benefits of the various activities and treatments.
- The necessary timelines to meet defined resource management objectives.
- Delivery recommendations, viable options, and consequences of not carrying out the activity.
- Consistency within programs and between delivery centres.
- Providing resource investment recommendations consistent with Forest Renewal BC investment principles and ground rules.

A. Forest Renewal BC eligible programs:

These programs for the three land-based programs that contain activities considered eligible for funding under Forest Renewal BC's eligibility guidelines.

a) Sustainable Harvest

(1) Objectives:

- Increase the volume, economic value, and health of second-growth forests
- Increase the amount of land available for commercial timber production; and
- Support more informed silviculture investment decisions.

(2) Strategies:

- Develop a prioritised list of incremental silviculture opportunities in the region.
- Recommend a strategy to implement activities that would yield the highest possible returns per dollar invested on the forested land base.

(3) Activities:

The eligible activities under SH are:

- Backlog:
  Backlog activities are designed to bring stands that were harvested, damaged, or destroyed prior to October 1, 1987 and are presently insufficiently stocked back into production.
- Impeded:
  Activities on impeded areas are designed to bring stands that were harvested, damaged, or destroyed prior to October 1, 1987 and are presently sufficiently stocked to the free growing stage.
- Enhanced Forestry:
  Enhanced forestry activities treat free growing stands to enhance their value, volume, biodiversity, habitat supply, and/or health.

(4) Management units:

All

b) Strengthening Sustainable Forest Management

(1) Objectives:

- Indefinitely satisfy needs for timber fibre, and non-timber forest products.
- Ensure conservation of soil and water.
- Sustain the resilience and renewal capacity of forests.

- Support the food security and livelihood needs of forest-dependant communities.
- Conserve biological diversity.
- Provide a more equitable sharing of the benefits from forest uses.

(2) Strategy:

Direct investments to knowledge areas that will strengthen the existing strategic level decisions and plans used to meet the principles of sustainable forest management.

(3) Information Gaps

Knowledge gaps were identified in the areas of growth & yield, silviculture strategies, and harvesting systems, as well as water management, cultural heritage, recreational features, non-traditional forest products, rare and endangered ecosystems, habitat, biodiversity, and identified species.

(4) Management Units:

The seven planning team members were the main conduits of information to the planning process. However, the SSFM component encompasses all planning units.

c) Enhancing Environmental Values

(1) Objective

To speed the recovery of fish habitat and water quality in priority key watersheds that have been damaged or are seriously threatened by forest development activities.

(2) Strategies

- Focus on the resource values of water quality and fish habitat
- Identify priority key watersheds to guide program expenditures
- Maintain an integrated approach towards restoration (i.e. deal collectively with hill slope, riparian and in-stream components)
- Encourage cost sharing with other agencies in order to maximise investment and ensure co-ordination
- Increase accountability and improve monitoring and effectiveness evaluation.

(3) Watersheds

The Ministry of Environment, Lands and Parks identified 543 watersheds within the Pacific Region. Of this total, there are currently 130 watersheds that have been identified as being eligible for Forest Renewal BC investment.

B. Ministry Components:

These programs contain activities which, at the time this RMP was assembled, do not qualify for Forest Renewal BC funding under Forest Renewal BC's eligibility guidelines and therefore require funding from other agencies to proceed. Should funding not be forthcoming these programs, in all likelihood, will not proceed.

d) Current Reforestation

(1) Objective

The objective of the Current Reforestation program is to ensure that all areas deforested through fire, pest, trespass, reverted Forest Licenses since 1988, and Timber Agreement lands are reforested and brought to free growing.

(2) Activities

Activities included under Current Reforestation include planning & prescriptions, site preparation, planting, brushing, maximum density spacing, studies, seedling purchases and other activities directly related to achieving free growing status on qualified blocks.

(3) Management Units

All Timber Supply Areas

e) Forest Health Maintenance

(1) Objectives

The objectives of the Forest Health Maintenance program are:

A. Where economically beneficial:
  - Ensure existing forest resources are protected from damaging agents; and
  - Ensure damaging agents do not impede silviculture obligations or investments.

B. Where required to meet stewardship obligations:
  - Monitor forest health and the occurrence of damaging agents that impact forest health; and
  - Provide guidelines for establishment and management of regenerated areas that minimises potential pest impacts.

(2) Activities

Activities included under Current Reforestation are those that protect existing timber primarily from insects, and supply basic forest health information to operational planners.

(3) Management Units

All Timber Supply Areas

f) Non-Status Road Rehabilitation & Deactivation

(1) Objective

- To identify and prioritise watershed restoration projects that do not meet the current funding priorities under Forest Renewal BC's enhancing environmental values (watershed restoration) program, but which could be implemented should a source of funding become available.
- To reduce the future costs of mitigating impacts and to minimize current risks from pre-Code harvesting operations

(2) Activities

- Deactivate and stabilize former logging roads remaining from pre-Code harvesting operations on Crown land that present a safety and environmental hazard .
- Carry out hill slope stabilization and rehabilitation on sites impacted by the above roads.

(3) Management Units

All Timber Supply Areas

g) Forest Service Road Management Program

(1) Objective

To provide a planning mechanism that assists the ministry in identifying Forest Service Road maintenance and bridge replacement priorities in accordance with legislative requirements and government policy.

(2) Activities

- Access planning and acquisition
- Maintenance, modification, and deactivation of roads
- Inspection, repair, and replacement of bridges and major culverts

(3) Management Units

All Timber Supply Areas

h) Forest Resources Inventories

(1) Objective:

To identify and assess priorities for inventory information needed to improve the information required for conducting ministries core business through:

- Co-ordinating inventory planning,

- Ensuring that inventory needs are identified based upon business requirements, and
- Identifying Ministry of Forests, Ministry of Environment Lands and Parks, Ministry of Energy and Mines, and BC Fisheries inventory priorities.

(2) Activities

The activities included in the Forest Resources Inventories component are those inventories that are a resource management need but do not meet the present Forest Renewal BC eligibility requirements.

(3) Management Units:

All Timber Supply Areas.

i) Recreation Site and Trail Maintenance

j) Research

(1) Objectives:

- have all research funding relate directly to Forest Renewal BC's strategic objectives,
- actively communicate research results to various audiences,
- base research investment decisions on priorities established in a collaborative manner, and
- link funded research projects to nationally and internationally recognised principles.

(2) Activities:

To achieve these objectives, a four-stage investment (stand alone for this fiscal year) planning process has been developed. The process engages resource and research practitioners at an early stage and will result in the targeted delivery of Forest Renewal BC's research dollars.

Stage 1: Data collection and knowledge gap identification	May - August
Stage 2: Analysis and priority-setting	August
Stage 3: Call for proposals	September - December
Stage 4: Review and award	January - March

(3) Management units:

All

1.2 INTRODUCTION:

This Resource Management Plan consists of 10 key components:

- Sustainable Harvest
- Current Reforestation
- Forest Health Maintenance
- Enhancing Environmental Values
- Non-Status Road Rehabilitation & Deactivation
- Forest Service Road Management
- Strengthening Sustainable Forest Management
- Forest Resources Inventories
- Recreation Site & Trail Maintenance
- Research.

Each of these components represents a forest resource management program administered by the BC Ministry of Forests, BC Ministry of Environment, Lands and Parks or both. The activities and projects within these components are delivered by various agencies or licensees and thus these agencies and licensees have been integral participants in the compilation of this RMP.

The Vancouver Forest Region consists of 22 management units:

Eight Timber Supply Areas:

- Fraser
- Soo
- Strathcona
- Arrowsmith
- Kingcome
- Sunshine Coast
- Mid-Coast
- Queen Charlotte Islands

and 14 Tree Farm Licenses:

- TFL 26 - Mission
- TFL 19 – Western Forest Products
- TFL 25 – Western Forest Products
- TFL 39 - Weyerhaeuser
- TFL 45 – International Forest Products
- TFL 47 – TFL Forests Limited
- TFL 6 – Western Forest Products
- TFL 10 – International Forest Products
- TFL 44 - Weyerhaeuser
- TFL 46 – TFL Forests Limited
- TFL 54 – International Forest Products
- TFL 57 - Weyerhaeuser
- TFL 38 – International Forest Products
- TFL 37 – Canadian Forest Products

It is the responsibility of the Ministry of Forests, under the terms of the Services Agreement jointly signed by MOF and Forest Renewal BC, to co-ordinate and produce the RMP. In doing so, the MOF compiled the *Guidelines for the Development of Resource Management Plans for 2001 – 2002*. These guidelines clarified the requirements of the RMP, what was to be included in the submissions, and what the process and timelines were to bring the RMP together. MOF district offices were responsible for compiling the required data and text for the various TSAs and the licensees were required to compile the data for their respective management units. All licensee submissions were then forwarded to the MOF district offices that administer their license. The district offices reviewed the licensees' data with respect to the licensees stated management strategies contained within the licensees' Management and Working Plans. Once reviewed, both the TSA and licensee data and text was forwarded to the MOF Vancouver Forest Region regional office where it was compiled to produce this final document.

The RMP includes management issues and data from all agencies, licensees, and management units managing or occupying crown forest land within the Vancouver Forest Region.

1.3 OVERVIEW OF RESOURCE MANAGEMENT ISSUES:

The Timber Supply Review process within the Vancouver Forest Region has resulted in significant reductions in the annual allowable cut in many of the Timber Supply Areas (TSAs). In addition, the presence of "at risk" wildlife species that require special management or no work zones, such as the marbled murrelet, spotted owl, and Vancouver Island marmot, has further eroded the forest land base from which timber may be extracted by conventional means. Combined with the falldown effect now affecting many TSAs, the region is faced with some serious potential wood fibre shortages, both in terms of volume and quality. To alleviate this the Sustainable Harvest portion of this RMP concentrates efforts on bringing backlog areas to free growing and enhancing the rate and quality of fibre production through the application of activities such as juvenile spacing, pruning, and fertilisation

Research efforts with this region, while covering a wide array of potential subjects, concentrate on investigating and assessing methods and treatments having potential to aid in addressing the issues stated above.

Within the Enhancing Environmental Values (EEV) program, Vancouver Forest Region is the only region in the province given a second year (2001/2002) to complete works in transitional watersheds. These watersheds are ones that have ongoing works in watersheds that no longer qualify as eligible under Forest Renewal BC' s newer eligibility rules. To this end, licensees are allowed to budget up to 30% of their EEV allocation towards completing works within these transitional watersheds within the next fiscal year.

1.4 REGIONAL SUMMARIES of the RMP Component Data:

1.4.1 Sustainable Harvest Component:

1.4.1.1 Regional Rollup Enhanced Forestry Table

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)

Enhanced Forestry Table

For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	29171	29205	27960	27330	26530	39.33	1147425	
Spacing	5834	5906	5891	6006	5746	1709.56	9973600	
Pruning	3530	2998	2848	3028	2650	2132.76	7528650	
Fertilizing	20481	18960	17680	17080	16030	335.58	6872976	
Other	98	98	98	148	148	2551.02	250,000	
Totals hectares	59114	57167	54477	53592	51104	435.98	25,772,651	
Planning and prescriptions							571,000	
Total dollars							26,343,651	

Forest Health Enhancement

Spacing	60	110	100	100	100	6,000.00	360000	
Pruning	230	280	280	230	230	991.30	228000	
Other treatments	690	740	740	740	740	173.91	120000	
Totals hectares	980	1130	1120	1070	1070	722.45	708,000	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	100	85	85	85	85	2,320.00	232000	
Non-riparian treatments	134	130	230	380	380	2,082.13	279005	
Totals hectares	234	215	315	465	465	2,183.78	511,005	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	29171	29205	27960	27330	26530	39.33	1,147,425	
Spacing	5894	6016	5991	6106	5846	1,753.24	10,333,600	
Pruning	3760	3278	3128	3258	2880	2,062.94	7,756,650	
Fertilizing	20481	18,960	17,680	17,080	16,030	335.58	6,872,976	
Other stand tending activities	1022	1053	1153	1353	1353	862.04	881005	
Totals hectares	60328	57459	54759	53774	51286	447.42	26,991,656	
Planning and prescriptions							571,000	
Studies funding							577000	
Total dollars							28,139,656	

1.4.1.2 Regional Rollup Backlog Program Table

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)

Backlog Program Table

For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1826	1317	1259	1268	1176	38.45	70217	
Site preparation	14	5	5	5	5	848.57	11880	
Planting	137	50	50	30	30	1,117.52	153100	
Brushing	238	180	235	101	164	1,156.72	275300	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	2215	1552	1549	1404	1375	230.47	510,497	
Seed purchase	9830	30	30	30	30	0.45	4400	
Total legal obligations							514,897	
Backlog Reforestation								
Surveys	14705	10588	8145	7247	6880	25.96	381750	
Site preparation	125	137	175	50	50	884.00	110500	
Planting	552	569	450	245	245	1,663.86	918450	
Brushing	1250	862	592	460	385	1,260.40	1575500	
Totals hectares	16632	12156	9362	8002	7560	179.55	2,986,200	
Seed purchase	70050	50	50	50	50	0.39	27,000	
Prescriptions and planning dollars							131,400	
Total backlog reforestation							3,144,600	
Impeded areas								
Surveys	10226	6375	4310	3075	2745	38.22	390860	
Brushing	3135	2220	1935	1095	1020	1,109.31	3477675	
Density spacing	0	0	0	0	0	#DIV/0!	0	
Totals hectares	13361	8595	6245	4170	3765	289.54	3,868,535	
Prescriptions and planning dollars							127,550	
Total impeded areas							3,996,085	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	381	311	221	246	226	2,954.07	1125500	
Reforestation	72	72	52	52	32	1,395.83	100500	
Totals hectares	453	383	273	298	258	2,706.40	1,226,000	
Seed purchase	11,600	11600	11600	11600	11600	0.35	4,080	
Prescriptions and planning dollars							44,000	
Total site restoration							1,274,080	
Backlog Program Activities - Management Unit Total								
Surveys	26757	18280	13714	11590	10801	31.50	842827	
Site preparation	520	453	401	301	281	2,399.77	1247880	
Planting	761	691	552	327	307	1,540.14	1172050	

Brushing	4623	3262	2762	1656	1569		1,152.60	5328475	
Density spacing	0	0	0	0	0		0.00	0	
Totals hectares	32661	22686	17429	13874	12958		263.04	8591232	
Seed purchase	91480	11680	11680	11680	11680		0.39	35480	
Prescriptions and planning								302,950	
Recommended studies								102,000	
Total backlog program								9,031,662	
* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.									

1.4.1.3 Regional Rollup Performance Measures

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilise	Support staff and admin	Totals
Inputs											
A **Planned treatment area (ha) in 2001/2002**	761	91,480	18,278	520	761	4,623	5,894	3,760	20,481	147,580	
1.0 **Timber Supply**											
1.1 Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2 Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3 Pot. total merch. volume increment in 65 years (m3)	38,088	0	297,018	0	93,984	75,124	0	0	614,430		**1,118,644**
1.4 Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4 Est. area that will be reclassified as stocked (ha)			630								**630**
1.5 Est. area that will be declared as free growing (ha)			5,905								**5,905**
2.0 **Wood Value**											
2.1 Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0 **Employment**											
3.1 Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2 Estimated total employment (person days/year)	76	31,103	1,828	494	1,522	12,066	23,340	17,070	3,687	14,758	
3.3 Estimated total full time equivalent positions (FTE)	0	173	10	3	8	67	130	95	20	82	**589**
4.1 **Forest Health Enhancement (ha)**											**980**
5.1 **Habitat Supply**											
5.2 Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											**234**
5.3 Est. area with secondary value provided to biodiversity (ha)											**360**

1.4.1.4 Proposed Studies List for the Vancouver Forest Region

Study/Research	Unit	Agency	$$$$
Growth responses of Soo TSA stands from multiple Fertilization	Soo TSA	MoF	25,000
Quantification of backlog brushing, extent, and effects Focus on re-invasion of red alder from roads and within blocks.	Sunshine Cst TSA	MoF	25,000
Quantification of backlog brushing, extent, and effects. Focus on re-invasion of red alder from roads and within blocks.	Sunshine Cst TSA	MoF	25,000
Early growth rates – yield effect	TFL 46	TFL	6,000 establish 10,000 total
Road based mechanical spreading of fertiliser into variable retention harvest areas	TFL 46	TFL	6,000 establish 9,000 total
Develop a planning tool to track and predict a green up of harvested areas.	TFL 46	TFL	20,0000 develop +10,000 over 2 yr to complete
Control of Scotch Broom an undesirable invasive exotic competitor	TFL 47	TFL	6,0000 establish $9,000 total
Road based Fertilization into Fdc spaced, commercially thinned and retained after partial harvests	TFL 47	TFL	6,000 establish 10,000 total
Impact of variable retention harvesting on animal and plant species on Quadra Island	TFL 47	TFL	$30,000 over 2 yrs
Opportunities to promote old growth attributes	TFL 44	Wey	a
GIS based survey for suitable fertilisation stands according to silviculture regime table	TFL 44	Wey	b
Study of opportunities to promote spring forage	TFL 44	Wey	c- TFL 44 total a,b,c is $60,000
Study to quantify the impacts of introduced elk on forest stands especially Cw	TFL 39-DSC	Wey	e
Study to determine the incidence and range of balsam woolly aphid	TFL 39-DSC	Wey	f
Study of herbicide treatments Vs manual treatments to encompass financial and biological quantification	TFL 39-DSC	Wey	g TFL 39 total DSC e,f,g is $40,000
Fertilization regimes and materials for stand impaired by salal (Fdc, Hw, Cw)	TFL 39-DCR	Wey	h
Forage production around DWR	TFL 39-DCR	Wey	i TFL 39 total DCR h,i is $40,000
Blackheaded Budworm outbreak	TFL 39-DQC	Wey	j
Trial of riparian restoration and old growth recruitment projects in the QCI	TFL 39-DQC	Wey	k TFL 39 total DQC j,k is $100,000

Study/Research	Unit	Agency	$$$$
Increase proportion of Fdc, Yc and Cw in second growth stands	TFL 47-DPM	TFL	9,800 establish 12,000 total
Improve ability to manage for blow down at the cutblock layout level	TFL 47-DPM	TFL	$10,000
Manage of cedar salal associated ecosystems for increased forest productivity (RESEARCH)	TFL 6-DPM	WFP	$100,000
Impact of windthrow on the riparian areas, and at a landscape level. Analysis and amalgamation of current research on windthrow management.	TFL 6-DPM	WFP	$100,000
Grafting SLW resistant scions onto infected stems (10 - 20 year old plantation stock). 100 scions to be grafted on to 100 infected trees in 5 areas, representing a range of seed providence and biogeo variation	Kingcome TSA	DPM	$7,000

Section 1.4.1.4

APPENDIX 5

PROPOSED STUDIES LIST AND SUPPORTING INFORMATION (FORMS)

<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">Control of Scotch Broom, an undesirable, invasive, exotic competitor.</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Trials of control treatments.</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CWH vm1,mm, xm and dm</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Effects all natural ecosystems after disturbance.</td></tr>
<tr><td>Step 5. Temporal Scale of importance
(how urgent is this?)</td><td colspan="6">Long term effect</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">Large scale.</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">Effects crop establishment costs and management of biodiversity. Also has implications on road access.</td></tr>
<tr><td>Step 8.
Strategic Objectives:
(tick all that apply)</td><td>SH
X</td><td>EEV</td><td>SSFM
X</td><td>C&I</td><td>VA</td><td>WF</td></tr>
</table>

Region: Vancouver **Study (Y/N):** Y

Date: July 28, 2000 **or Research (Y/N):**

Mgmt. Unit: TFL 47

Dollar Amount:

$6000 to establish; $9,000 total

<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">Impact of variable retention harvesting on animal and plant species on Quadra Island.</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Continue a study initiated by TimberWest. Re-establish baselines and re-inventory.</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CWH xm</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Effect on similar ecosystems after harvesting.</td></tr>
<tr><td>Step 5. Temporal Scale of importance
(how urgent is this?)</td><td colspan="6">Long term effect</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">Limited scale.</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">Effects management of biodiversity.</td></tr>
<tr><td rowspan="2">Step 8.
Strategic Objectives:
(tick all that apply)</td><td>SH</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA</td><td>WF</td></tr>
<tr><td>X</td><td></td><td>X</td><td></td><td></td><td></td></tr>
</table>

Region: Vancouver **Study (Y/N):** Y

Date: July 28, 2000 **or Research (Y/N):**

Mgmt. Unit: TFL 47

Dollar Amount:

$30,000 total over two years.

RESEARCH CONCERN MATRIX						
Steps	**Resource or Issue of Concern**					
Step 1. Resource or Issue of Concern	Road-based, mechanical spreading of fertilizer into Douglas-fir spaced, commercially thinned and retained after partial cuts.					
Step 2. Management Practice or Policy affecting issue (key assumptions)	Assessment of distribution method and of growth response.					
Step 3. Primary ecosystem this occurs in	CWH vm1, xm, dm, mm.					
Step 4. Key partners affected by this issue	Forest Licensees / MoF Small Business Program					
Step 5. Temporal Scale of importance (how urgent is this?)	Long term effect					
Step 6. Spatial Scale (small vs wide reaching impacts)	Small area					
Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans	Expect competitive, low cost and good growth response					
Step 8. Strategic Objectives: (tick all that apply)	**SH** X	**EEV**	**SSFM**	**C&I**	**VA**	**WF**

Region: Vancouver **Study (Y/N): Y** **Date: July 28, 2000** **or Research (Y/N):**	**Mgmt. Unit: TFL 47** **Dollar Amount:** **$6000 to establish; $10,000 total**

<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">Management of Cedar Salal associated ecosystems for increased forest productivity.</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Operational implementation and monitoring of research results gathered from the Salal Cedar Hemlock Integrated Research Program (SCHIRP)</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CWH</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Industry, Ministry of Forests, University of British Columbia, University of Victoria, and Canadian Forest Service</td></tr>
<tr><td>Step 5. Temporal Scale of importance (how urgent is this?)</td><td colspan="6">Urgent. Continuation and expansion of current studies.</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">Wide – potentially all of FRBC Pacific Region.</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">Timber Supply – Increase of site productivity to meet FRBC goals of increasing mean annual increment within a 5 year period.</td></tr>
<tr><td>Step 8. Strategic Objectives: (tick all that apply)</td><td>SH[1]
X</td><td>EEV</td><td>SSFM
X</td><td>C&I</td><td>VA[2]</td><td>WF</td></tr>
</table>

Region: Pacific	**Study (Y/N):**	**Mgmt. Unit: TFL 6**
Date: August 23, 2000	**or Research (Y/N):Y**	**Dollar Amount: $100,000.00**

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[1] SH = Sustainable Harvest EEV = Enhance Environmental Values SSFM = Strengthen Sustainable Forest Management C&I = Criteria and Indicators of Sustainability VA = Value Added CO = Communities WF = Workforce

[2] We will include needs for these strategic objectives if identified but will not ask specifically for these needs.

RESEARCH CONCERN MATRIX						
Steps	**Resource or Issue of Concern**					
Step 1. Resource or Issue of Concern	Improve ability to manage for blow-down at the cutblock layout level.					
Step 2. Management Practice or Policy affecting issue (key assumptions)	Develop a wind-throw hazard evaluation for this portion of the TFL.					
Step 3. Primary ecosystem this occurs in	CWH vm1					
Step 4. Key partners affected by this issue	Forest Licensees / MoF Small Business Program					
Step 5. Temporal Scale of importance (how urgent is this?)	Long term effect					
Step 6. Spatial Scale (small vs wide reaching impacts)	Large-sized area					
Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans	Reduced loss of timber value.					
Step 8. Strategic Objectives: (tick all that apply)	**SH** X	**EEV**	**SSFM**	**C&I**	**VA**	**WF**

Region: Vancouver **Study (Y/N): Y** **Date: July 28, 2000** **or Research (Y/N):**	**Mgmt. Unit: TFL 47** **Dollar Amount:** **$10,000 total**

<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">Increase proportion of Fd, Yc and Cw in second growth stands</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Assessment of response to spacing, cleaning and/or fertilization.</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CWH vm1</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Forest Licensees / MoF Small Business Program</td></tr>
<tr><td>Step 5. Temporal Scale of importance (how urgent is this?)</td><td colspan="6">Long term effect</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">Moderate-sized area</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">Increased value expectation.</td></tr>
<tr><td>Step 8.
Strategic Objectives:
(tick all that apply)</td><td>SH
X</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA</td><td>WF</td></tr>
</table>

Region: Vancouver **Study (Y/N):** Y
Date: July 28, 2000 **or Research (Y/N):**

Mgmt. Unit: TFL 47
Dollar Amount:
$8000 to establish; $12,000 total

RESEARCH CONCERN MATRIX

Steps	Resource or Issue of Concern
Step 1. Resource or Issue of Concern	Impact of windthrow on riparian areas. Impact of windthrow at a landscape level. Analysis and amalgamation of current research on windthrow management.
Step 2. Management Practice or Policy affecting issue (key assumptions)	Windthrow has been a part of North Island ecosystems for centuries. Since the implementation of the Forest Practices Code of BC the use of reserves to protect riparian, biodiversity, and other special resource values, has increased dramatically. There is also a great deal of interest in using alternate silviculture systems, which include an increase in the use of reserves. Northern Vancouver Island experiences some of the highest winds on the BC Coast. With the increased use of reserves, windthrow management issues will only increase in importance to ensure that the values reserves are designed to protect are protected.
Step 3. Primary ecosystem this occurs in	CWH
Step 4. Key partners affected by this issue	Partnerships have been formed with Western Forest Products Limited, Golder Associates, Ministry of Forests and University of British Columbia.
Step 5. Temporal Scale of importance (how urgent is this?)	Very high importance as the use of reserves is increasing drastically with time.
Step 6. Spatial Scale (small vs wide reaching impacts)	Approximately 12,000 hectares of forest on Northern Vancouver Island originated from the hurricanes that occurred between 1902 and 1906. Wind has always been a dominant force on Northern Vancouver Island. The use of reserves is increasing; therefore, the potential impacts are increasing.
Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans	Windthrow has been identified as an issue within the TFL 6 RMP. As increasing demands are placed on timber supply, it becomes more important to properly manage windthrow. By doing this, it ensures that more timber is not reserved than required to protect the values that reserves are designed to protect. Proposed implementation of the Vancouver Island Land Use Plan requires the use of alternate harvesting systems within Special Management Zones. This will require the increased use of reserves within SMZs 2 and 4 that are fully contained with TFL 6.

Step 8. Strategic Objectives: (tick all that apply)	**SH[1]**	**EEV**	**SSFM**	**C&I**	**VA[2]**	**WF**
	X	X	X	X		

Region: Pacific Study (Y/N): Y	**Mgmt. Unit: TFL 6**
Date: August 8, 2000 or Research (Y/N):	**Dollar Amount: $100,000**

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[1] SH = Sustainable Harvest EEV = Enhance Environmental Values SSFM = Strengthen Sustainable Forest Management C&I = Criteria and Indicators of Sustainability VA = Value Added CO = Communities WF = Workforce

[2] We will include needs for these strategic objectives if identified but will not ask specifically for these needs.

<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">Many young stands of Ss on the BC coast are badly infested and damaged by spruce weevil, and there are few options for their management. There are currently no feasible control or management treatments to deal with these infested plantations operationally. If successful, this trial may lead to operational treatments.</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Makes free growing and stocking standards difficult to achieve. The use of Ss can also solve some competing brush problems. Also, Ss is now not being planted in areas it should be – there is an ecological/biodiversity concern.</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CWHvm1, ms2 – anywhere else that Sitka spruce would be planted</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Most forest licensees – TFL, FL, Small Business</td></tr>
<tr><td>Step 5. Temporal Scale of importance (how urgent is this?)</td><td colspan="6">In the short term, free growing/stocking standards are impacted. In the long term timber volumes and value are impacted, i.e. less productive and valuable timber species are used (i.e. hemlock instead of Sitka spruce). Also the time to rotation will be lengthened (the time to free growing is usually delayed significantly). The demand for treatments should be urgent, the reduced yields are significant. However, most foresters have given up hope and are waiting for resistant Ss planting stock to be developed. This trial may provide a technique to deal with current infestations.</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">Potentially wide reaching to anywhere spruce is planted, if successful (including the interior) - initially the coast (ecosystems noted above).</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">Timber supplies are impacted due to lengthened rotations, and less productive and valuable timber species being used for reforestation (TSR). Weevil damage may also impact management objectives for ecology/biodiversity because it results in Ss not being used for reforestation in areas where it should be. (HLP)</td></tr>
<tr><td>Step 8. Strategic Objectives: (tick all that apply)</td><td>SH[1]
✓</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA[2]</td><td>WF</td></tr>
</table>

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[2] We will include needs for these strategic objectives if identified but will not ask specifically for these needs.

Region: Vancouver	**Study : Yes**	**Mgmt. Unit: Kingcome TSA**
Date: September 2000	**or Research : No**	**Dollar Amount: $7000.00**

<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">To quantify the extent of red alder, other deciduous species/brush in pre 1988 backlog areas and qualify the timber supply impact . Analyse management regimes and treatment costs and provide options and recommendations.</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Backlog policy, and establishment to free growing guidelines Timber supply models assume prompt treatment for competing vegetation and re-invasion of previously free growing areas by alder and other competing vegetation may affect future stand yields.</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CDF, CWH xm, dm, ds1, ds2, ms1, ms2, vm1, mm1, vh1, wh1</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Forest licensees, TFL licensees, SBFEP</td></tr>
<tr><td>Step 5. Temporal Scale of importance (how urgent is this?)</td><td colspan="6">May have long-term effects on timber supply</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">3 to 4 coastal forest districts</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">RMP - Re-invasion of red alder may increase the backlog areas requiring funding for brushing treatments (resources needed). TSR implication depending on the extent that previously free growing area may be reverting to deciduous species.</td></tr>
<tr><td>Step 8. Strategic Objectives: (tick all that apply)</td><td>SH
x</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA[1]</td><td>WF</td></tr>
</table>

Region: Vancouver **Study (Y/N):Y** **Date: September 7, 2000**	**Mgmt. Unit: Kingcome TSA** **Dollar Amount: $25,000**

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[1] We will include needs for these strategic objectives if identified but will not ask specifically for these needs.

<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">To quantify the extent of red alder, other deciduous species/brush in pre 1988 backlog areas and qualify the timber supply impact . Analyse management regimes and treatment costs and provide options and recommendations.</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Backlog policy, and establishment to free growing guidelines Timber supply models assume prompt treatment for competing vegetation and re-invasion of previously free growing areas by alder and other competing vegetation may affect future stand yields.</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CDF, CWH xm, dm, ds1, ds2, ms1, ms2, vm1, mm1, vh1, wh1</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Forest licensees, TFL licensees, SBFEP</td></tr>
<tr><td>Step 5. Temporal Scale of importance
(how urgent is this?)</td><td colspan="6">May have long-term effects on timber supply</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">3 to 4 coastal forest districts</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">RMP - Re-invasion of red alder may increase the backlog areas requiring funding for brushing treatments (resources needed). TSR implication depending on the extent that previously free growing area may be reverting to deciduous species.</td></tr>
<tr><td>Step 8.
Strategic Objectives:
(tick all that apply)</td><td>SH
x</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA[1]</td><td>WF</td></tr>
</table>

Region: Vancouver **Study (Y/N):Y**
Date: September 7, 2000

Mgmt. Unit: Sunshine Coast TSA
Dollar Amount: $25,000

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[1] We will include needs for these strategic objectives if identified but will not ask specifically for these needs.

<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">Early growth rates - Yield effect</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Fertilization of young Douglas-fir can increase height growth rate.</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CWH vm1, mm1</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Forest Licensees / MoF Small Business Program</td></tr>
<tr><td>Step 5. Temporal Scale of importance
(how urgent is this?)</td><td colspan="6">Long term effect</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">Small area affected but may decrease need for brushing and concomitant problems with pesticide use</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">May increase yield curves</td></tr>
<tr><td rowspan="2">Step 8.
Strategic Objectives:
(tick all that apply)</td><td>SH[1]</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA[2]</td><td>WF</td></tr>
<tr><td>X</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

Region: Vancouver	**Study (Y/N): Y**	**Mgmt. Unit: TFL 46**
Date: July 28, 2000	**or Research (Y/N):**	**Dollar Amount:**
		$6000 to establish; $10,000 total

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<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">Road-based, mechanical spreading of fertilizer into variable retention harvest areas where Fd has been retained or into candidate stands of unspaced second growth Fd.</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Assessment of distribution method and of growth response.</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CWH vm1, mm1</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Forest Licensees / MoF Small Business Program</td></tr>
<tr><td>Step 5. Temporal Scale of importance
(how urgent is this?)</td><td colspan="6">Long term effect</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">Small area</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">Expect competitive, low cost and good growth response</td></tr>
<tr><td rowspan="2">Step 8.
Strategic Objectives:
(tick all that apply)</td><td>SH</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA</td><td>WF</td></tr>
<tr><td>X</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

Region: Vancouver	**Study (Y/N): Y**	**Mgmt. Unit: TFL 46**
Date: July 28, 2000	**or Research (Y/N):**	**Dollar Amount:**
		$6000 to establish; $9,000 total

<table>
<tr><th colspan="7">RESEARCH CONCERN MATRIX</th></tr>
<tr><th>Steps</th><th colspan="6">Resource or Issue of Concern</th></tr>
<tr><td>Step 1. Resource or Issue of Concern</td><td colspan="6">Develop a planning tool to track and predict green up of harvested areas. This will aid decision makers in long range and short range harvest planning and approval.</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue (key assumptions)</td><td colspan="6">Forest Development Plan planning guidelines and 20 year planning modelling to assist in AAC testing.</td></tr>
<tr><td>Step 3. Primary ecosystem this occurs in</td><td colspan="6">CWH vm1, CWH mm1</td></tr>
<tr><td>Step 4. Key partners affected by this issue</td><td colspan="6">Forest Licensees / MoF Small Business Program, MOF admin responsible for FDP approval, MOE and FDP approval</td></tr>
<tr><td>Step 5. Temporal Scale of importance (how urgent is this?)</td><td colspan="6">Moderate to high 20 year plan of next Management Plan (in 2 years time.)</td></tr>
<tr><td>Step 6. Spatial Scale (small vs wide reaching impacts)</td><td colspan="6">TFL 46</td></tr>
<tr><td>Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans</td><td colspan="6">Management Plan for TFL 46, FDP planning and approval,</td></tr>
<tr><td rowspan="2">Step 8.
Strategic Objectives:
(tick all that apply)</td><td>SH[1]</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA[2]</td><td>WF</td></tr>
<tr><td>X</td><td></td><td>X</td><td>X</td><td></td><td></td></tr>
<tr><td>Region: Vancouver
Study (Y/N): Y
Date: July 28, 2000
or Research (Y/N):</td><td colspan="6">Mgmt. Unit: TFL 46Dollar Amount:
Est. - $20,000 to develop and start inputting data and do field assessment and calibration. $10,000 per year for 2 years to complete TFL harvested areas.</td></tr>
</table>

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RESEARCH CONCERN MATRIX

Steps	Resource or Issue of Concern
Step 1. Resource or Issue of Concern	Growth responses of Soo TSA stands from multilple fertilization.
Step 2. Management Practice or Policy affecting issue (key assumptions)	FERTILIZATION. Information is lacking in Coastal BC about the magnitude of growth gains. Information in TASS is based on one study on one stand on eastern Vancouver Island.
Step 3. Primary ecosystem this occurs in	CWHds1, CHWms1, IDFww and CWHvm1 variants.
Step 4. Key partners affected by this issue	All major licensees, SBFEP, and MOE. First Nations indirectly affected since shift to harvesting 2nd growth may occur at an earlier age.
Step 5. Temporal Scale of importance (how urgent is this?)	There is great pressure from all stakeholders to commence harvesting in our 2nd growth stands ASAP. The main goal is to reduce the expensive harvesting of high elevation, poor quality Hemlock-Balsam stands and return to the roaded and good quality 2nd growth stands. Proper fertilization scheduling would allow this goal to be met sooner.
Step 6. Spatial Scale (small vs wide reaching impacts)	The RMP calls for 1400 ha of fertilization each year. The plan is to fertilize suitable stands at eight year intervals. Obtaining good growth response data would benefit the program since it would provide us with the optimum interval period, specific to variant.
Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans	Results would be used to produce TSA-specific growth curves for the next TSR. Financial analysis would suggest the optimum budget that would maximize both value and volume returns.

Step 8. Strategic Objectives: (tick all that apply)	**SH**	**EEV**	**SSFM**	**C&I**	**VA[1]**	**WF**
	X	X		X		

Region: Vancouver **Study (Y/N):No**
Date: 2000/9/18 **or Research (Y/N):Yes**
Mgmt. Unit: Soo TSA
Dollar Amount: 25,000

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[1] We will include needs for these strategic objectives if identified but will not ask specifically for these needs.

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Section 1.4.1 Vancouver Forest Region Total (TFLs and TS

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	29171	29205	27960	27330	26530	39.33	1147425	
Spacing	5834	5906	5891	6006	5746	1709.56	9973600	
Pruning	3530	2998	2848	3028	2650	2132.76	7528650	
Fertilizing	20481	18960	17680	17080	16030	335.58	6872976	
Other	98	98	98	148	148	2551.02	250,000	
Totals hectares	59114	57167	54477	53592	51104	435.98	25,772,651	
Planning and prescriptions							571,000	
Total dollars							26,343,651	

Forest Health Enhancement

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	60	110	100	100	100	6,000.00	360000	
Pruning	230	280	280	230	230	991.30	228000	
Other treatments	690	740	740	740	740	173.91	120000	
Totals hectares	980	1130	1120	1070	1070	722.45	708,000	

Habitat Supply and Biodiversity Enhancement

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	100	85	85	85	85	2,320.00	232000	
Non-riparian treatments	134	130	230	380	380	2,082.13	279005	
Totals hectares	234	215	315	465	465	2,183.78	511,005	

Domestic Range

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	29171	29205	27960	27330	26530	39.33	1,147,425	
Spacing	5894	6016	5991	6106	5846	1,753.24	10,333,600	
Pruning	3760	3278	3128	3258	2880	2,062.94	7,756,650	
Fertilizing	20481	18,960	17,680	17,080	16,030	335.58	6,872,976	
Other stand tending activities	1022	1053	1153	1353	1353	862.04	881005	
Totals hectares	60328	57459	54759	53774	51286	447.42	26,991,656	
Planning and prescriptions							571,000	
Studies funding							577000	
Total dollars							28,139,656	

12/28/2005

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1826	1317	1259	1268	1176	38.45	70217	
Site preparation	14	5	5	5	5	848.57	11880	
Planting	137	50	50	30	30	1,117.52	153100	
Brushing	238	180	235	101	164	1,156.72	275300	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	2215	1552	1549	1404	1375	230.47	510,497	
Seed purchase	9830	30	30	30	30	0.45	4400	
Total legal obligations							514,897	
Backlog Reforestation								
Surveys	14705	10588	8145	7247	6880	25.96	381750	
Site preparation	125	137	175	50	50	884.00	110500	
Planting	552	569	450	245	245	1,663.86	918450	
Brushing	1250	862	592	460	385	1,260.40	1575500	
Totals hectares	16632	12156	9362	8002	7560	179.55	2,986,200	
Seed purchase	70050	50	50	50	50	0.39	27,000	
Prescriptions and planning dollars							131,400	
Total backlog reforestation							3,144,600	
Impeded areas								
Surveys	10226	6375	4310	3075	2745	38.22	390860	
Brushing	3135	2220	1935	1095	1020	1,109.31	3477675	
Density spacing	0	0	0	0	0	#DIV/0!	0	
Totals hectares	13361	8595	6245	4170	3765	289.54	3,868,535	
Prescriptions and planning dollars							127,550	
Total impeded areas							3,996,085	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	381	311	221	246	226	2,954.07	1125500	
Reforestation	72	72	52	52	32	1,395.83	100500	
Totals hectares	453	383	273	298	258	2,706.40	1,226,000	
Seed purchase	11,600	11600	11600	11600	11600	0.35	4,080	
Prescriptions and planning dollars							44,000	
Total site restoration							1,274,080	
Backlog Program Activities - Management Unit Total								
Surveys	26757	18280	13714	11590	10801	31.50	842827	
Site preparation	520	453	401	301	281	2,399.77	1247880	
Planting	781	691	552	327	307	1,540.14	1172050	
Brushing	4623	3262	2762	1656	1569	1,152.60	5328475	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	32661	22686	17429	13874	12958	263.04	8591232	
Seed purchase	91480	11680	11680	11680	11680	0.39	35480	
Prescriptions and planning							302,950	
Recommended studies							102,000	
Total backlog program							9,031,662	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	60,328	57,459	54,759	53,774	51,286	447	26,991,656
Planning, prescriptions and seedlings							1,148,000
Backlog Program Field Activities	32,661	0	0	0	0	263	8,591,232
Planning, prescriptions and seedlings							440,430
Totals	92,989	57,459	54,759	53,774	51,286		37,171,318

Performance Measures

Potential total merchentable volume increment in 65 years	1,121,539 m^3
Estimated ha that will be reclassified as stocked	630 ha
Estimated ha that will be declared as free growing	5,905 ha
Estimated total full time equivalent positions generated	589 FTEs
Forest health enhancement area	980 ha
Planned area for specific wildlife forage or habitat maintenance	234 ha
Estimated area with secondary value provided to biodiversity	360 ha

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	761		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	761		
B Nursery production of seedlings			
Enter sowing requests from SPAR		91,480	
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			29,171
Total backlog surveys from the backlog table.			26,757
33% of all silviculture surveys			18,456
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply (A)			0
Surveyed area that will affect timber supply			
Replace with (A) if a more exact estimate is calculated			18,456
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)			
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			630
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)			
Estimate area that will be classified as free growing after a survey in 2001/2002			5,905

Habitat Supply
MELP staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 360

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	761	91,480	18,456	520	761	4,623	5,894	3,760	20,481	147,758	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	38,088	0	299,914	0	93,984	75,124	0	0	614,430		1,121,539
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			630								630
1.5	Est. area that will be declared as free growing (ha)			5,905								5,905
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	76	31,103	1,846	494	1,522	12,066	23,340	17,070	3,687	14,776	
3.3	Estimated total full time equivalent positions (FTE)	0	173	10	3	8	67	130	95	20	82	589
4.1	**Forest Health Enhancement (ha)**											980
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											234
5.3	Est. area with secondary value provided to biodiversity (ha)											360

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	761	91,480	18,456	520	761	4,623	5,894	3,760	20,481	147,758	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	38,088	0	299,914	0	93,984	75,124	0	0	614,430		1,121,539
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			630								630
1.5	Est. area that will be declared as free growing (ha)			5,905								5,905
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	76	31,103	1,846	494	1,522	12,066	23,340	17,070	3,687	14,776	
3.3	Estimated total full time equivalent positions (FTE)	0	173	10	3	8	67	130	95	20	82	589
4.1	**Forest Health Enhancement (ha)**											980
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											234
5.3	Est. area with secondary value provided to biodiversity (ha)											360

Sustainable Harvest – Studies
Weyerhaeuser BC Coastal Group

TFL 44

1. Opportunities to promote old-growth attributes:
   - Issue of meeting the Land Use Planning OGMAs and biodiversity
   - Identifying possible ecosystems for this practice to be useful
   - Training will be facilitated to utilize First Nations workers
   - Needed to identify urgency for the TFL
   - Linked to the next Management Plan #4 for TFL 44 text of practices of silviculture activities. Will be tested in the Silviculture Type II Analysis

2. GIS based survey for suitable fertilization stands according to silviculture regime tables:
   - Urgent, especially for nutrient deficient sites to allow for combination fertilization applications of N and P
   - Identified in the next Management Plan as a silviculture activity acceptable for ROI

3. Study of opportunities to promote Spring Forage:
   - Urgent pressures on the TSR if limitations are set
   - Study to initiate the suitability of current forage and availability – attempt to define rotation forage areas through this study

Sustainable Harvest – Studies
Weyerhaeuser BC Coastal Group

TFL 39

Sunshine Coast

1. Study to quantify impacts of introduced elk on forest stands, especially the Cw component of these stands:
   - Urgent, to identify potential problems in meeting biodiversity guidelines
   - Required to establish scale of impacts both financial and biological
   - Impacts of Timber Supply review wrt species component

2. Study to determine the incidence and range of the balsam wooley aphid:
   - Needed to support or discount current management practices of not establishing Ba
   - Species and biodiversity implications

3. Study of herbicide treatments vs manual treatments; to encompass financial and biological quantification
   - Start with a literature review; then progress to analysis looking a treatment timing and techniques
   - Urgent, given green-up constraints and competition of brush species

Campbell River

1. Fertilization regimes and materials for stands impaired by salal (Fdc, Hw, Cw)
   - Looking at increasing growth on nutrient deficient sites with trials of different types and application amounts of fertilizer mixes
   - Urgent to increase growth in specific site classes

2. Forage production around DWR:
   - Low level photography to type forage amounts and type to enable development of a forage strategy:
   - Urgent to LUP initiatives and limiting netdowns on timber harvesting landbase

Queen Charlottte Islands

1. Blackheaded Budworm Outbreak
    - Working with the CFS, and other licensees, looking at developing the knowledge of mortality and future potential mortality and trying on a small scale a number of treatments (ie: sanitation cuts, egg sampling and damage appraisals)
    - Urgent to forest health in the QCI
    - Required to address future timber supply
    - Required to address the potential for silviculture treatments on rehabilitation of forest stands affected

2. Trial of riparian restoration and old growth recruitment projects in the QCI
    - Utilizing the works done under the EFMPP with variable density spacing for objectives other than timber production, establishing some small projects to evaluate potential of these treatments in the QCI

1.4.1.5 Regional Rollup Summary Table

Section 1.4.1 Vancouver Forest Region Total (TFLs and TSAs Combined)

Management Unit Summary Table

For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	60,328	57,459	54,759	53,774	51,286	447	26,991,656
Planning, prescriptions and seedlings							1,148,000
Backlog Program Field Activities	32,661	0	0	0	0	263	8,591,232
Planning, prescriptions and seedlings							440,430
Totals	92,989	57,459	54,759	53,774	51,286		37,171,318

Performance Measures

Potential total merchentable volume increment in 65 years	1,121,539 m^3
Estimated ha that will be reclassified as stocked	630 ha
Estimated ha that will be declared as free growing	5,905 ha
Estimated total full time equivalent positions generated	589 FTEs
Forest health enhancement area	980 ha
Planned area for specific wildlife forage or habitat maintenance	234 ha
Estimated area with secondary value provided to biodiversity	360 ha

1.4.2 Current Reforestation

1.4.2.1 Regional Rollup of Current Reforestation Planned Activities

VANCOUVER FOREST REGION

Current Reforestation

For the 2001/02 Fiscal Year

		Five-year Plan Goals (ha)					**Annual Plan 2001/02**		
	Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1	Planning/surveys/prescriptions	321	265	220	100	342	$80	$25,500	H
2	Site preparation	109	0	0	0	0	350	38,000	H
3	Planting	135	0	0	0	0	1,200	162,000	H
4	Brushing	26	0	0	0	0	700	18,000	H
5	Max. density spacing	0	0	0	0	0	0	0	
6	Studies	0	0	0	0	0	0	0	
7	Other	0	0	0	0	0	0	0	
	Totals hectares	591	265	220	100	342	412	243,500	
	Seedling purchase	0	0	0	0	0	0	0	
	Total funding							243,500	

Priority is critical, high, moderate, low

1.4.3 Forest Health Maintenance

1.4.3.1 Regional Rollup of Forest Health Maintenance Activities

VANCOUVER FOREST REGION
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

			Five-year Plan Goals					Annual Plan 2001/02		
	Activities	**Units**	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1	Ground Surveys	ha	600	600	600	600	600	$25	$15,000	H
2	Defoliator spraying	ha	0	1000	0	0	0	0	0	
3	Aerial Survey - overview	ha	400000	400000	400000	400000	400000			
4	Aerial Surveys - detailed	ha	2000	2000	2000	2000	2000			
Totals hectares			600	1600	600	600	600			
5	Aerial Survey - overview	hrs flying time	35	35	35	35	35	1,000	35,000	C
6	Aerial Surveys - detailed	hrs flying time	5	5	5	5	5	1,000	5,000	H
7	Fall and burn treatment	trees	0	0	0	0	0	0	0	
8	MSMA treatment	trees	0	0	0	0	0	0	0	
9	Pheromone baiting	trees	0	0	0	0	0	0	0	
10	Studies	number	0	0	0	0	0	0	0	
11	Other		5	4	4	4	4	7,000	35,000	H
	Totals		403245	405244	403244	403244	403244	$9,025	$90,000	

Priority is critical, high, moderate, low

It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan. However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.

5 Request for aerial overview survey funding includes **all** districts.

11 Funding for treatments including pruning Pw, bridge tree and fill planting for root disease, noxious weed control.

Forest Health Information Sub-program:

			Five-year Plan Goals					Annual Plan 2001/02		
	Activities	**Units**	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($000)	Priority C, H, M, L
1	Ground Survey	ha	1000	1000	1000	1000	1000	$12	$12,000	H
Totals hectares			1000	1000	1000	1000	1000			
2	Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
	Studies/ Operational Trials:									
3	· Hazard and risk	number	2	2	2	1	1		25,000	M
4	· Impact analyses (G&Y)	number	1	1	1	1	1		35,000	H
5	· Treatments	number	3	4	3	2	2		40,000	H
6	Training Courses	number	1	1	1	1	1		2,000	M
7	Other		5	5	5	5	5		103,000	H

Totals	2012	2013	2012	2010	2010	$12	$217,000

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program
7 - Includes funding for extension, gypsy moth trap placement/collection, and activities outside #3, 4, & 5.

1.4.4 Enhancing Environmental Values

1.4.4.1 Summary of Regional Priority Watersheds

Category	Number of Watersheds	% of Total watersheds
Total number of watersheds	543	100
Key watersheds	223	41
Priority key watersheds	130	24
Target watersheds	48	9
Transitional watersheds	49	9
1	129	24
2	57	10
3	186	34
4	9	2
5	162	30

1.4.5 Non-Status Road Rehabilitation & Deactivation

1.4.5.1 Regional Rollup of Data Template identifying High/Moderate Priorities

Count								$9,395,153			
Region	**District**	**RMP Watershed Number**	**Watershed Name**	**Project Name**	**Proponent**	**Activity**	**Units**	**Estimated Cost**	**Priority**	**Benefit to**	**Notes**
RVA	DCR		No name	Towery Head	MOF	RD	5km	$ 30,000	H	Safety	Logging below
RVA	DCR	30	Pye Cr.	Menzies Mt.	MOF	RD	10km	$ 40,000	H	Safety/Infrastruct.	Potential slide to FSR below
RVA	DSC		Ouillett Cr.	Ouillett Cr.	TFP	HR	2ha	$ 25,000	H	Safety/Infrastruct.	Above Hwy
RVA	DSC		Bear Cr.	Bear Cr.	MOF	HR/RD	4ha	$ 200,000	H	Safety/Infrastruct.	Above Hwy
RVA	DSC		Twin Creeks	Twin Creeks	MOF	HR	2ha	$ 25,000	H	Safety/Infrastruct.	Above HWY
RVA	DSI	213	Nitinat Lake	Hobiton M/L	MOF	RR	11km	$ 87,500	H	Safety/Access	
RVA	DSI	190	Cowichan river	Upper Skutz	MOF	RD	2.8km	$ 46,000	H	Saf/Pla/Env	
RVA	DCR	37	Quinsam R.	Iron R.	MOF	RD	1km	$ 8,000	H	Env.	Potential slide to Quinsum R.
RVA	DCR	36	Lower Campbell R.	John Hart Pit	MOF	HR	3ha	$ 20,000	H	Env.	
RVA	DSC		Camp OC	Camp OC	CFP	RD	22.3km	$ 557,000	H	Env/Pla	Level 2 complete
RVA	DCR	36	Lower Campbell R.	Beavertail	MOF	RD	4km	$ 15,000	H	Env	Old structures
RVA	DSC	436	Sechelt Penn	Sechelt Penn	MOF	RD	40km	$ 800,000	H	Env	Excludes Com Watershed
RVA	DSI	252	Henderson	Snug Side	MOF	RD/HR	0.8ha	$ 240,000	H	Saf/Pla/Env	
RVA	DSC		Gargoyle Cr.	Gargoyle Cr	TFP	RD	7.7km	$ 308,000	H	Env	
RVA	DSC	407	Quatam R.	Quatam	IFP	RD	20km	$ 800,000	H	Env/Pla	
RVA	DSI	247	Clayoquot R.	Deer Bay	MOF	RD	0.5km	$ 15,000	H	Env	
RVA	DSI	213	Nitinat l.	Nit2/8	MOF	RD	23km	$ 189,000	H	Pla/Aes/Env	
RVA	DCR	36	Lower Campbell R.	John Hart Rds	MOF	RD	6km	$ 25,000	M	Infra	
RVA	DSC	425	Sechelt Cr.	Sechelt cr.	CFP	RD	6.4km	$ 327,000	M	Env/Pla	
RVA	DSC	406	Moh Cr.	Moh Cr.	IFP	RD	10km	$ 450,000	M	Env/Pla	
RVA	DSI	250	Draw Cr.	Draw cr.	MOF	RD	2	$ 12,500	M	Saf/Env	Bridge removal
RVA	DSI	249	Lost Shoe Cr.	Lost Shoe Cr.	MOF	RD	1	$ 1,200	M	Saf/Env	Bridge removal
RVA	DSI	250	Paradise Cr.	Paradise Cr.	MOF	RD	1	$ 25,000	M	Saf/Env	Bridge removal
RVA	DSI	249	Smith Cr.	Smith Cr.	MOF	RD	3	$ 8,300	M	Saf/Env	Bridge removal
RVA	DSI	249	ThorntonCr.	Thorton Cr.	MOF	RD	1	$ 3,000	M	Saf/Env	Bridge removal
RVA	DCR	60	Little Zeballos R.	Little Zeballos	MOF	HR	5ha	$ 20,000	M	Env/Site Prod.	
RVA	DSC	440	Treat cr.	Treat	IFP	HR	10ha	$ 250,000	M	Aesthetics	High Vis from Ferry

RVA	DSC		Box Canyon Cr.	Box Canyon	CFP	RD	8.7km	$ 217,500	M	Env/Pla	Level II complete
RVA	DSI	198	Nanaimo R.	Boulder Cr.	MOF	RD	2.1km	$ 18,000	M	Saf/Env	
RVA	DCR	36	Lower Campbell R.	Boot Lake	MOF	RD	2km	$ 3,000	M	Env	Old wood culv. on fish strm
RVA	DCR	528	Kyuquot	Easy Cr.	Mof/IFP	RD	10km	$ 40,000	M	Env	Drain. control.Adj instream wk done
RVA	DSC		Nor Cr.	Nor cr.	IFP	RD	4.3km	$ 193,500		Env/Pla	Level II's complete
RVA	DSI	232	Escalante R	Escalante	MOF	RD	66.2km	$655,000*	M	Pla/saf	*$1,655,000
RVA	DSI	532	Cous Cr	Cous Cr Rd	MOF	RD	1.6km	$ 32,000	M	Pla/Env	
RVA	DCR	60	Little Zeballos R.	Little Zeballos	MOF	RD	3km	$ 60,000	M	Env	Unstable hotspots
RVA	DCR	29	Mohun	Mary L.	MOF	RD	2km	$ 5,000	M	Env	Old wood culv.on fish stream
RVA	DCR		Tsowwin R/Tah. Inlet	Tsowwin TL's	MOF	RD	4km	$ 70,000	M	Env/For.Prod.	Sig.silv. invest
RVA	DSC		Goat Lake	Goat Lake	Weyco	RD	10,6km	$ 265,000	M	Env/Pla	Level II's complete
RVA	DSC	427	Potlatch Cr	Potlatch Cr	CFP	RD	33.9km	$ 847,500	M	Env/Pla	Level II complete
RVA	DSC	426	Thornhill Cr.	Thornhill Cr	CFP/IFP	RD/HR	25.7km	$ 642,500	M	Env/Pla	Level II complete
RVA	DSI	247	Clayoquot R	Deer Bay	MOF	RD	0.7km	$ 14,000	M	Plantation	
RVA	DCR	528	Kyuquot	St.Paul's Cr	MOF	RD?HR	5km	$ 150,000	M	Env/For.Prod/fish	
RVA	DSC		Lausmann Cr	Lausmann	IFP	RD	2.5km	$ 112,500	M	Env	
RVA	DSC	405	Tahumming R	Tahumming	IFP/MOF	RD	17.1km	769,500M	M	Env/Pla	Level II's complete
RVA	DCR	528	Kyuquot	Mt.Paxton	MOF	HR	60ha	$ 40,000	M	ForProd/VQO	
RVA	DSC	391	Teaquahan R	Teaquahan	TFP	RD	16.3km	$ 652,000	M	Env	Level II's completed
RVA	DCR		no name	Fanny Bay	MOF	HR	5ha	$ 25,000	M	Env.	Slides need attention
RVA	DCR	528	Kyuquot	Clanninick Cr	MOF/IFP	RD	10km	$ 100,000	M	Env/fish	Backend Clanninick Cr
RVA	DSC		W.Redonda Is.	W.Redonda	TFP/MOF	RD	5km	$ 200,000	M	Env/Pla	
RVA	DCR		Narrowgut/ Kaouk	Ray/Amai	MOF	RD	5km	$ 60,000	M	Env/fish	
RVA	DCR		no name	Shamrock Cr	MOF	RD	5km	$ 25,000	M	Aesthetics	
RVA	DSC	438	Sechal Cr.	Sechal	IFP	RD	40.2km	$ 645,153	M	Env/Pla	Level I complete
RVA	DSC	418	Stakawas Cr.	Stakawas Cr	IFP	RD	5km	$ 225,000	M	Env	
RVA	DSC		Chusan Cr	Chusan	IFP	RD	5km	$ 225,000	M	Env/Plan	

1.4.6 Forest Service Road Management

1.4.6.1 Regional Rollup of FSR Data Template

TABLE A

RESOURCE MANAGEMENT PLAN - ENGINEERING PROGRAM
VANCOUVER FOREST REGION

FOR YEAR

ACTIVITY	ACCOUNT	PRIORITY	OUTPUT UNITS	OUTPUT GOALS	ESTIMATED COSTS				TOTAL EST. $	BUDGET ALLOC.	ACTUAL COSTS	COMMENTS
					BASE $	CUMUL. BASE $	INCR. $	CUMUL. INCR. $				
Fixed Costs (region $):												
Right-of-way acquisition	40802	H	NO.						$0			
emergency repairs	40803	H	NO.	8	$320,000				$320,000			
inspection of bridges/major culverts	40804	H	NO.	420	$47,000				$47,000			
railway crossing maint.	40805	H	NO.						$0			
subtotal					$367,000		$0		$367,000			
Surface Maintenance	40805	H	KM	1348	$1,317,181				$1,317,181			
		M	KM	552			$410,141		$410,141			
(e.g., grading, brushing ditch cleanout, bridge deck cleaning and repair)		L	KM	688			$181,320		$181,320			
subtotal					$1,317,181		$591,461		$1,908,642			
Modification-Bridge and Major Culvert Replacement	40806	H	NO.	61	$5,040,000				$5,040,000			
		M	NO.	17			$2,348,000		$2,348,000			
		L	NO.	17			$1,355,000		$1,355,000			
subtotal					$5,040,000		$3,703,000		$8,743,000			
Modification-Other Works	40807	H	NO.	35	$1,140,500				$1,140,500			
		M	NO.	58			$1,481,824		$1,481,824			
(e.g., road relocation, stream culvert replacement, road stability repair)		L	NO.	31			$458,000		$458,000			
subtotal					$1,140,500		$1,939,824		$3,080,324			
Road Deactivation	40808	H	KM	118	$269,745				$269,745			
		M	KM	21			$60,900		$60,900			
		L	KM	34			$219,500		$219,500			
subtotal					$269,745		$280,400		$550,145			
TOTAL					$8,134,426		$6,514,685		$14,649,111			

1.4.7 Strengthening Sustainable Forest Management

1.4.7.1 Priority Pacific Region SFM Issues (Top 29 of 50 Issue Statements)

Ref #	Issue Statement	Points
Growth and Yield		
12	Uncertainty around growth and yield of future stands affected by various silviculture systems.	28.0
8	Need to refine site productivity estimates applied to growth and yield of future stands.	27.5
7	Need to refine operational adjustment factors applied to growth and yield of future stands.	25.0
4	Need to establish and maintain installations in support of growth and yield of future stands.	15.5
Identified Species (Plants and Animals) and Ecosystems		
20	Need to refine appropriate management strategies for Marbled Murrelet.	60.3
27	Uncertainty around timber supply impacts associated with Identified Wildlife Management Strategies.	55.5
17	Need to refine appropriate management strategies for Grizzly/Black Bear.	44.0
18	Need to refine appropriate management strategies for Fish/Fish Habitat	43.0
21	Need to refine appropriate management strategies for ungulates	35.8
14	Uncertainty around management strategies and timber supply impacts associated with maintaining rare and endangered plants and ecosystems.	27.8
22	Need to refine appropriate management strategies for predatory birds.	23.0
16	Need to refine appropriate management strategies for Spotted Owl.	21.3
Landscape and Stand Biodiversity		
29	Uncertainty around strategies and timber supply impacts associated with managing for landscape-level biodiversity.	50.0
31	Uncertainty around strategies and timber supply impacts associated with managing for stand-level biodiversity.	28.5
28	Need to refine landscape-level biodiversity monitoring programs.	16.9
30	Uncertainty around strategies and timber supply impacts associated with simulating natural forest conditions.	15.5

Other Forest Resources		
39	Uncertainty around strategies and timber supply impacts associated with managing for water quality/quantity.	35.8
33	Need to refine methods for addressing cultural heritage resources.	26.5
34	Opportunities to mitigate timber supply impacts associated with recreational features.	24.5
35	Opportunities to mitigate timber supply impacts associated with visual inventories.	23.5
38	Uncertainty around strategies and timber supply impacts associated with managing for additional karst sites.	23.5
37	Uncertainty around strategies and timber supply impacts associated with maintaining archaeological sites.	18.5
Planning		
47	Uncertainty around strategies and timber supply impacts associated with ecosystem-based management.	46.4
46	Uncertainty around management strategies and timber supply impacts associated with various silviculture systems.	37.0
Baseline Inventories and Tools		
50	Need to establish and improve access to baseline inventories for various planning initiatives.	31.1
52	Need to refine, update and standardise ecological classification for various planning initiatives.	27.5
53	Need to refine, update and standardise terrain classification for various planning initiatives.	24.0
54	Need to refine, update and standardise vegetation classification for various planning initiatives.	22.0
55	Need to refine/develop and improve access to planning models.	16.0

1.4.8 Forest Resources Inventory
    1.4.8.1 Regional Assessment of Inventory Needs Based upon Results of the Table 2 completed by each district
    (refer to Part 9)
1.4.9 Recreation Site & Trail Maintenance
    1.4.9.1 to be supplied by MoF Branch

1.4.10 Research

1.4.10.1 Summary of the Top Six needs

	(a) Resource of Concern
1	How can stand structures and spatial distributions on these issues (6, 49, 1, 23, 24, 49 in following list) in the landscape be integrated to meet the needs of habitat supply, timber supply and other forest values?
2	Can we predict future stand structures and dynamics under a full suite of silviculture regimes throughout all of BC's Productive Forest Land? How can we prioritise investments? How can we fund long-term G&Y Data collection and management on a continuing basis?
3	What are some socially acceptable alternatives (i.e. non-herbicide) for vegetation management on the provinces most productive sites and how do we monitor effectiveness on an operational scale (e.g. NIVMA)
4	What are the factors that determine resistance/susceptibility in conifers to stress agents (e.g. disease, insects, drought, cold)
5	Why can't we expand operational Fertilization programs to western Hemlock stands on the coast? Why does D-fir respond consistently when hemlock does not?
6	What are the effects (quantifiable in terms of harvest levels and cut losses) of the different harvesting practices / silviculture systems on the incidence of intensity of forest pests? Root disease and mistletoes?

Sustainable Harvest
Part 2 of the
Resource Management Plan
for the Vancouver Forest Region

September 30, 2000

SUSTAINABLE HARVEST OBJECTIVE

A COMPONENT OF THE VANCOUVER FOREST REGION

2001-2002

RESOURCE MANAGEMENT PLAN

SH 2001 text.doc

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PART 2:

SUSTAINABLE HARVEST REPORT

2.0 Regional Goals, Objectives and Strategies

2.0.1 Regional Goals

- Enhance the quantity and quality of timber supply and other forest resource values of Crown forests within the region through the application of appropriate silviculture treatments.
- Develop and implement a regional forest stewardship plan that guides silviculture investment within the region.

2.0.2 Regional Objectives

The objectives of the regional silviculture strategy are to:

- Reforest the remaining treatable backlog areas (within reasonable cost) and carry out stand tending treatments on impeded stands to meet free growing requirements.
- Ensure the long-term sustainable harvest approximates the current harvest value and volume levels and produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of environmental values at the landscape level.

2.0.3 Regional Strategies

Backlog Reforestation Program

- Conduct surveys required to manage the backlog reforestation program.
- Reclassify, site prepare or plant not satisfactorily restocked (NSR) areas by 2001/2002, within acceptable cost limits.
- Maintain plantation investments through fill planting, vegetation management and forest health treatments, as required, to achieve free growing stands on all backlog areas by 2010.
- Enhance fibre flow by rehabilitation of roads, landings or stand conversion by 2001/2002.
- Conduct studies and monitor the treatment activities for effectiveness and cost efficiencies and provide recommendations for improving the program.

Enhanced Forestry Program

- Conduct surveys and site evaluations to manage the enhanced forestry program to ensure that only high to medium priority stands are scheduled for treatment.
- Protect prior treatment investments.
- Juvenile space high and medium priority stands to facilitate fertilization and pruning treatments.
- Juvenile space high priority stands in preparation of future commercial thinning.
- Juvenile space in specific management units, where required, to improve fibre flow in the mid and long- term by increasing average piece size over a shorter rotation.

- Fertilize medium and poor site Douglas-fir and western hemlock stands to increase volume and enhance fibre flow.
- Prune high site index Douglas-fir, western hemlock and Sitka spruce stands to increase stand value.
- Conduct studies and monitor the treatment activities for effectiveness and cost efficiencies and provide recommendations for improving the program.
- Improve habitat supply and environmental values through specific treatments that are supplemental to standard enhanced forestry activities;

2.1 Regional Silviculture Priorities and Issues

2.1.1 Regional Priorities

Within the Region a Type 1 incremental silviculture analysis that identified activity priority rating rationalized to the latest timber supply analysis was completed for all TSAs in 1998. Most TFLs are planning to complete a Type1 analysis this fiscal year but were not at a stage where information could be input into the RMP process. For this reason and to assist in the FRBC funding allocation process activity the summary Table included an activity priority rating column. The priority rating was to be guided by the following.

- To provide a relative ranking of activities within a program (e.g. backlog or enhanced forestry) as it relates to meeting management objectives, timber supply/timber quality/habitat targets and strategies for the management unit (exclusive of social objectives).
- Rank activities within a program (e.g. backlog or enhanced forestry) from 1 (highest) to 3 (lowest) relative to one another.
- The ranking should reflect the order of importance in meeting volume and value targets of a management unit and FRBC's strategic objectives for sustainable harvest i.e. invest in the production of faster growing, higher quality stands of second growth timber to increase the potential future harvest (for the Region, 5 million cubic metres over the next five years) and increase the economic value of timber on all enhanced forest treatment areas (for the Region increase by 5 to10 per cent). Note that we do not yet have FRBC targets for environmental values, however, activities that provide habitat/biodiversity values contribute to achieving the overall timber and economic targets at the management unit level.
- For TFLs the ranking referred to activities within the supply block located within the forest district.

The ranking of activities was to be guided by the following rating criteria:

High Priority - Use code 1

Backlog Reforestation Program

- Backlog – legal obligation (areas under a silviculture prescription and the treatment such as planting or site preparation has commenced; fill planting,
- Backlog – protecting backlog investment e.g. appropriate surveys or brushing impeded (stocked but not free growing) areas.

Enhanced Forestry Program

- The activity is included in the timber supply review base case for a management unit (e.g. fertilizing 1000 ha/yr).
- Activities that contribute to maintaining current harvest levels or that mitigate mid term shortfall in timber supply e.g. fertilizing stands 10-30 years prior to harvest, or spacing to improve timber flow or spacing to set up stands for commercial thinning. Includes activities that promote faster development of old growth attributes and habitat/biodiversity values that may be limiting timber supply in the mid-term especially if these activities have an immediate implementation window e.g. spacing stands at the appropriate age/seral stage to achieve the habitat/biodiversity values.
- Protecting second-growth forests from insect epidemics and disease.
- Activities that positively contribute to continuous supply of habitat for red-listed and blue-listed species and regionally significant wildlife. Activities with maintenance of wildlife habitat as the primary or secondary objective (in the SMP) where wildlife are being managed.

Medium Priority - Use code 2

Backlog Reforestation Program

- Backlog areas where initial treatment has not commenced

Enhanced Forestry Program

- Overall the activity will contribute towards achieving the volume and value targets and generally have a positive return on investment e.g. stand activities to increase volume or value of long term supply.
- Stand tending and pruning to enhance the seral stage distribution and structure of the forest.
- Also consider forest health enhancement activities where these offer greater returns on investment than other incremental silviculture activities or treatments that enhance general biodiversity and habitat supply and biodiversity values versus habitat supply for specific targeted species.

Low Priority - Use code 3

Enhanced Forestry/Backlog Reforestation Program

- Overall the activity is considered low in achieving the volume and value targets or does not fit within strategies. There is generally a negative return on investment. Stand tending is a low priority where the security of investment is questionable because of land alienation, pests etc.

2.1.2 2001/2002 Backlog Activity Opportunities Summarized by Priority

The total backlog program activities by priority for the region are as follows;

Table 1: Total Backlog Program Activities by Priority

Backlog $$	**Priority 1 $$**	**Priority 1 % Grand Total**	**Priority 2 $$**	**Priority 2 % grand Total**	**Priority 3 $$**	**Priority 3 % grand Total**	**Priority Total $$**	**Total % of Grand Total**
Legal								
surveys	70217	.7	0	0	0	0	70217	.7
site prep	11880	.1	0	0	0	0	11880	.1
planting	153100	1.7	0	0	0	0	153100	1.7
brushing	275300	3.1	0	0	0	0	275300	3.1
max density	0	0	0	0	0	0	0	0
seed	4400	0	0	0	0	0	4400	0
Total legal $	514897	5.6	0	0	0	0	514897	5.6
Reforest								
surveys	340500	3.8	39000	.4	2250	0	381750	4.2
Site prep	83500	.9	27000	.3	0	0	110500	1.2
planting	732250	8.1	186200	2.1	0	0	918450	10.2
Brushing	1575500	17.5	0	0	0	0	1575500	17.5
seed	19500	.2	7500	.1	0	0	27000	.3
Presc/plan	116000	1.3	15400	.2	0	0	131400	1.5
Total Refor $	2867250	31.8	275100	3.1	2250	0	3144600	34.9
Impeded								
Surveys	347850	3.9	43010	.5	0	0	390860	4.3
Brushing	3101500	34.4	376175	4.2	0	0	3477675	38.6
Density SP	0	0	0	0	0	0	0	0
Presc/plan	113150	1.3	14400	.2	0	0	127550	1.4
Total imped $	3562500	39.5	433585	4.8	0	0	3996085	44.3
Site restoration								
Fill plant	0	0	0	0	0	0	0	0
rehab	1105500	12.3	20000	.2	0	0	1125500	12.5
reforestation	100500	1.1	0	0	0	0	100500	1.1
seed	4080	0	0	0	0	0	4080	0
Presc/plan	44000	.5	0	0	0	0	44000	.5
Total site restore $$	1254080	13.9	20000	.2	0	0	1274080	14.1
Studies	102000	1.1	0	0	0	0	102000	1.1
Grand total	8300727	91.9	728685	8.1	2250	0	9024662	100

2.1.3 Regional Priority Ranking of Backlog Activities

The general regional priority ranking of backlog categories is as follows:

Table 2:Regional Priority Ranking of Backlog Activities and Rationale

Ranking	Category	Rationale
1	Legal	Backlog prescription in place, legal obligation to ensure area is free growing and treatments have commenced.
2	Impeded (stocked but not free growing due to competing vegetation)	Brushing required to protect past investment and reduce potential mai losses from competing vegetation. Generally TSR assumption is that a managed stand has had competing vegetation treated promptly.
3	Studies	Benefits are improved treatment and cost efficiencies, options for treatment or non-treatment and confirmation that free growing stands are retaining that status.
4	Reforestation	Adds productive land base back into the timber supply area. Once backlog prescription in place and treatment commenced undertaking new funding commitment to free growing.
5	Site Restoration involves the site rehabilitation and reforestation of roads and landing as the principle objective, land or soil stabilization is a secondary benefit. Road stabilization is covered under WRP.	High cost of treatment lowers ranking and return on investment may be marginal in many cases. Exceeding cost cap of $1500/ha may require supporting analysis. It does add land into the productive forest land base and early plantation performance in many areas is promising with certain tree species. Higher priority may be justified where RMZs are reforested in conjunction with RRZ to ensure resource management objective is met for the entire RMA.

2.1.4 Regional Trends in Backlog Activity Opportunities Comparing Last Year's RMP and This Year's RMP

A comparison was made between this year's backlog component of the RMP and last year' submission to evaluate trends in activity levels. A comparison of the proposed hectares treated for year 2001 in both plans indicate that legal backlog activities are falling (-65% for total) except for planting and brushing; reforestation category activities are generally increasing (+51% for total); impeded brushing is increasing 18 %; and total site restoration is increasing 68%. Overall the proposed total hectares for treatment for all activities is within 1% of last year's RMP estimate for 2001. The proposed cost of doing the activities indicated in the plans for 2000 and 2001 were compared. The proposed dollars indicated for legal backlog activities are increasing for planting and brushing (overall cost is falling 20% due to reduced surveys); for the reforestation category, surveys, planting and brushing are increasing; total impeded dollars are falling (7%); and total site restoration has increased 144%. Generally the increased activity levels in reforestation of NSR and in site restoration are increasing total costs by 16%. This year's RMP indicates the backlog funding request for TSAs and TFLs is 42% and 58% of the total request respectively. If site restoration is capped at last year's level the TSA to TFL split is approximately 45% to 55% respectively.

Table 3:Regional Trends in Backlog Activity Opportunities

Backlog	**Last Years BL Plan yr 2001 ha**	**This Years BL Plan yr 2001 ha**	**Percentage Change**	**Last Years BL Plan yr 2000 $$**	**This Years BL Plan yr 2001yr $**	**Percentage Change**
Legal						
surveys	4765	1286	-73	277,676	60,217	-78
site prep	44	14	-68	117,250	11,880	-90
planting	91	137	+50	33,000	153,100	+363
brushing	78	238	+205	196,500	275,300	+40
max density	0	0	0	0	0	0
seed	42	98	+133	2,550	4,400	+73
Total legal	5020	1773	-65	627,246	504,897	-20

Reforest						
surveys	6215	9805	+58	272,062	381,750	+40
Site prep	95	125	+32	144,500	110,500	-24%
planting	656	552	-16	819,000	918,450	+12
Brushing	640	1250	+95	944,250	1,575,500	+67
seed	186	70	-62	4,970	27,000	+443
Presc/plan	3000	4900	+63	130,000	131,400	+1
Total Refor	11069	16702	+51	2,836,282	3,144,600	+11

Impeded						
Surveys	8000	6826	-15%	479,537	390,260	-19
Brushing	2662	3135	+18	3,557,260	3,477,675	-2
Density SP	0	0	0	0	0	0
Presc/plan	4955	3400	-32	240,000	127,550	-47
Total imped	15622	13361	-15	4,276,797	3,996,085	-7

Site restoration						
Fill plant	n/a	0	n/a	n/a	0	0
rehab	277	381	+38	521,500	1,125,500	116
reforestation	n/a	72	n/a	n/a	100,500	n/a
seed	n/a	12	n/a	n/a	4,080	n/a
Presc/plan	n/a	n/a	n/a	n/a	44,000	n/a
Total site restore	277	465	+68	521,500	1,274,080	+144

studies	n/a	n/a	n/a	56,500	102,000	+82

Grand total	31741	32212	+1	7,796,825	9,021,662	+16

2.1.5 Recommended Regional Backlog Activity Level

Type 1 silviculture analyses have not been completed for TFLs therefore allocations are to be guided be indicated priority and other regional ranking criterion.

It is recommended that the backlog program be funded at 70 % of total requests (approximates last year's funding allocation level). Since the indicated priority 1 funding requests exceed the allocation suggest using the regional ranking. Fund legal and impeded backlog categories and studies at 100 % of total requests, site restoration at 50% of total request (to cover expanded definition of site restoration) with the balance of the allocation being allocated to reforestation (40% to 50% of the total allocation). This recommended allocation level would result in an approximate funding split between TSA and TFL of between 50/50% and 55/45% respectively.

2.1.6 2001/2002 Enhanced Forestry Activity Opportunities Summarized by Priority

The total enhanced forestry program opportunities by priority for the region are as follows;

Table 4:Enhanced Forestry Activity Opportunities Summarized by Priority

Enhanced Forestry $$	**Priority 1 $$**	**Priority 1 % Grand Total**	**Priority 2 $$**	**Prty 2 % Grand Total**	**Priority 3 $$**	**Prty 3 % Grand Total**	**Priority Total $$**	**Total % of Grand Total**
Tending								
surveys	881,675	3.2	242,000	.9	5,000	0	1,128,675	4
spacing	4,345,500	15.6	5,623,300	20.1	0	0	9,968,800	35.7
pruning	490,000	1.8	5,888,650	21.1	1,055,000	3.8	7433650	26.6
fertilization	6,276,291	22.5	596,685	2.1	0	0	6,872,976	24.6
other	75,000	.3	0	0	175,000	.6	250,000	.9
Plans/presc	525,250	1.9	45,750	.2	0	0	571,000	2
Total	12,593,716	45.1	12,396,385	44.4	1,235,000	4.4	26,225,101	93.9
Forest Health								
Spacing	320,000	1.1	40,000	.1	0	0	360,000	1.3
pruning	162,000	.6	66,000	.2	0	0	228,000	.8
other	95,000	.3	25,000	.1	0	0	120,000	.45
Total	577,000	2.1	131,000	.5	0	0	708,000	2.5
Habitat Supply								
Riparian	75,000	.3	77,000	.3	0	0	152,000	0.5
Non riparian	50,000	.2	90,000	.3	139,005	.5	279,005	1
total	125,000	.4	167,000	.6	139,005	.5	431005	1.52
studies	552,000	2	0	0	0	0	552,000	2
Grand Total	13,847,716	49.6	12694385	45.5	1374005	4.9	27916106	100

2.1.7 Regional Priority Ranking of Enhanced Forestry Activities

The general regional priority ranking of enhanced forestry categories/activities is as follows:

Table 5: Regional Priority Ranking of Enhanced Forestry Activities

Ranking	Category/Activity	Rationale
1	Stand Tending -surveys, plans/prescriptions	A plan, prescription or survey must confirm that the stand is a high priority for treatment and must be initiated before a treatment commences.
1	Stand Tending -Fertilization	Treatment increases timber yield and generally has the highest return on investment.
1	Forest Health Activities	May reduce stand volume losses and improve on timber supply operational adjustment factors
1	Studies	Results from studies may improve operational efficiency, and address timber supply issues.
2	Stand Tending -Spacing	Sets stands up for other treatments such as pruning, fertilization, or commercial thinning to maximize response and resources. Free growing stands on salal dominant sites may be fertilized without spacing to facilitate crown closure and shading out of salal. Spacing may move stands forward in the harvest queue filling age class gaps. It controls species to increase stand value and reduce blowdown. Set a minimum annual level to retain an experienced work force and ensure future treatment programs will have optimal response.
3	Stand tending -Pruning	Increases the amount of clear lumber with potential future dollar value benefits using today's standards. Part of a balanced approach to retain future options. Second lift pruning considered for higher priority to protect past investment. Retain a minimum annual level to retain an experienced work force.
3	Habitat Supply -Riparian	May improve short-term supply by relaxing adjacency constraint, or the mimicking of old growth traits and freeing up old growth timber for harvest.
3	Habitat Supply -Non riparian	Ensure habitat and biodiversity are maintained into the future. Works towards achieving future habitat supply and biodiversity objects. Some treatments may accelerate old growth characteristics relaxing harvest constraints on old growth stands.

2.1.8 Regional Trends in Enhanced Forestry Activity Opportunities Comparing Last Year's RMP and This Year's RMP

A comparison was made between this year's enhanced forestry component of the RMP and last year's submission to evaluate trends in activity levels. A comparison of the proposed hectares treated for year 2001 in both plans indicate for the stand tending treatments that spacing activities are falling (17%) and the other activities are increasing, surveys (12%), pruning (12 %) fertilization 46% and prescriptions 8 %. The proposed forest health activities have increased approximately 21%. The proposed habitat supply activities are down 90%. Overall the proposed total hectares for treatment for all enhanced forestry activities are up 11% over last year. The proposed cost of doing the activities indicated in the plans for 2000 and 2001 were compared. The proposed dollars indicated for stand tending activities are increasing for surveys (17%), fertilization (19%) and plans and prescriptions (13%). The funding request for habitat supply activities is down approximately 50%. Generally the increased proposed activity levels in fertilization and surveys and reduced levels in spacing is lowering the overall funding request over last year. The total enhanced forestry funding request for TSAs and TFLs is 57% and 43% respectively. This is because the more expensive pruning and spacing activity level proposed for the TSAs is considerably higher than for the TFLs (i.e. of the total funding request by activity for the region the TSAs account for 73% of spacing, 63% of pruning and 30% of fertilizing). This is partly related to the Type 1 silviculture strategies completed for TSAs which established timber quality objectives and set a per cent target for timber quality.

Table 6: Regional Trends in Enhanced Forestry Activity Opportunities

Enhanced Forestry	**Last Years EF Plan yr 2001 ha**	**This Years EF Plan yr 2001 ha**	**Percentage Change**	**Last Years EF Plan yr 2000 $$**	**This Years EF Plan yr 2001yr $**	**Percentage Change**
Stand Tending						
Surveys	17,460	19,471	+12	977,262	1,147,425	+17
Spacing	7,070	5,834	-17	12,700,650	9,973,600	-21
Pruning	3,147	3,530	+12	7,852,025	7,528,650	-4
Fertilizaion	14,035	20,481	+46	5,762,800	6,872,976	+19
Other	320	98	-69	695,000	250,000	-64
Plan/presc	8,994	9,700	+8	503,438	571,000	+13
Total	5,1026	59,114	+16	28,491,175	26,343,651	-7,5
Forest Health						
Spacing	124	60	-51	330,200	360,000	+9
Pruning	205	230	+12	71,600	228,000	+218
Other	481	690	+43	525,000	120,000	-77
Total	810	980	+21	577,600	708,000	+23
Habitat Supply						
Riparian	n/a	100	n/a	n/a	232,000	n/a
Non-Riparn	2,377	134	n/a	1,007,625	279,005	n/a
Total	2,377	234	-90	1,007,625	511,005	-49
Studies	n/a	n/a		271,500	577,000	+113
Grand Total	54,213	60,328	+11	30,347,900	28,139,656	-8

2.1.9 Recommended Regional Enhanced Forestry Activity Level

Type 1 silviculture analysis have not been completed for TFLs therefore allocations are to be guided be indicated priority and other regional ranking criterion.

It is recommended that the enhanced forestry program be funded at 50 % of total requests (approximates last year's funding allocation level).

It is suggested within the region that a minimum activity level of 800 ha of pruning (second lift over first lift) and 3200 ha of spacing be funded to maintain an experienced work force. The stands selected for pruning should have a positive net present value. The pruning treatments maintain future options for wood quality and contribute to achieving regional wood quality targets. The spacing of candidate stands suitable for future fertilization and or pruning will enhance the response to treatment (allow for crown expansion) and set up some stands for commercial thinning opportunities. The species crop tree selection during spacing can also improve future stand value.

Studies, which address timber, supply constraints and evaluate opportunities for improved stand performance, should receive a high priority for funding. Suggest studies be funded up to 4 % of the enhanced forestry budget. Forest health related activities should also receive high priority for funding as they potentially can reduce volume losses from forest health problems. Suggest funding up to 4% of the enhanced forestry budget. Suggest funding habitat supply activities up to 2 % of the enhanced forestry budget particularly if they contribute to sustainable management of environmental values at the landscape level.

Suggest allocating the remainder of the enhanced forestry budget to fertilization (less 7% of the EF budget for surveys and prescriptions). Fertilization is a high priority for funding because of the good return on investment and its direct contribution to achieving the region's volume targets of 1,000,000 m3/year from enhanced forestry treatments. Where budgets provide for regional fertilization levels over 13000 ha/yr suggest that spacing (and pruning) be increased proportionally to set up stands for future treatments e.g. for every 1000 ha increase in fertilization activities increase spacing 250 ha and pruning 65ha.

Without the completed Type 1 analyses for TFLs suggest a similar funding split to last year between TSAs and TFLs be used (40/60) for the enhanced forestry program. The higher proportion of spacing and pruning proposed in TSA being at a higher cost may warrant considering increasing the TSA funding allocation above 40%.

2.1.10 Resource Management Issues

The resource management issues that need to be addressed in this and next year's plan are as follows:

- The completion of the initial treatment of backlog reforestation areas (currently not under a backlog silviculture prescription) including reclassification by 2001/2002; with particular emphasis placed on the acceptable cost limits for treatment.
- The completion of the legal obligations under a backlog silviculture prescription and placing high priority on protecting investments in previous backlog treatments by brushing where necessary. Conifer release projects require evaluation for need, and effectiveness of treatment in relation to cost.
- Areas identified under backlog reforestation opportunities require an evaluation for need and cost effectiveness of treatments.
- The maintenance of a fertilization program at a level that will realize optimal volume and value gains in recognition of its generally high return on investment.
- The maintenance of a spacing program that will support future fertilization, pruning and commercial thinning programs and capture optimal harvest flow volume and value gains.
- Development of a consistent approach for evaluation of activity projects with a standardized format for presenting supporting information.

- Ensure future plans provide treatment regime ranking for all management units.
- Next year refine the performance measures criteria and per cent contribution of the various activities and apply it to regional, district and management unit basis.
- Next year develop a budget allocation model linked to opportunities, return on investment and timber supply and timber value criteria.

2.2 Summary for Each Management Unit of Silviculture Priorities

Refer to FTP site of Corporate Policy and Planning Branch or Appendix in paper print.

2.3 Management Unit SH Data

Refer to FTP site of Corporate Policy and Planning Branch or Appendix in paper print.

2.4 Type 1 and Type 2 Silviculture Analysis Schedule

Table 7: Vancouver Forest Region Type 1 and 2 Silviculture Analysis Status:

Management Unit TSA/TFL	Type 1 Y/N/	Completion Date	Type 2 Y/N	Completion Date	Comments
Arrowsmith	Y	1998	Y	2000	Type 2 Draft revision
Fraser	Y	1998	Y	2000	Type 2 Draft revision
Kingcome	Y	1998	N		
Mid Coast	Y	1998	N		
Queen Charlotte Isl	Y	1998	N		
Soo	Y	1998	Y	2001	
Strathcona	Y	1998	Y	2001	
Sunshine Coast	Y	1998	Y	2001	
TFL 6 - WFP	Y	2001	Y	2001	
TFL 10 – IFP	Y	2001	N		
TFL 19 - WFP	Y	2001	N		
TFL 25 - WFP	Y	2001	N		
TFL 26 - MISSION	Y	2001	N		
TFL 37 – CFP	N	????	N		
TFL 38 - IFP	Y	Y	N		
TFL 39 – WEY	N	N/A	Y	2001	Type 2 in place of Type 1
TFL 43 - Scott Paper	N	????	N		
TFL 44 - WEY	Y	2001	N		
TFL 45 - IFP	Y	2000	N		Report Completed
TFL 46 TFL	N	????	N		
TFL 47 TFL	Y	2001	N		
TFL 54 - WEY	Y	2001	N		
TFL 57 – WEY/IISA	Y	2001	N		

DRAFT VERSION 1.2

PACIFIC REGION 5-YEAR RESOURCE MANAGEMENT PLAN FOR 2001/02-2005/06 – SUSTAINABLE HARVEST OBJECTIVE, HABITAT/BIODIVERSITY COMPONENT

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September 25, 2000

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1.0 STRATEGIC DIRECTION

1.1 MELP HABITAT PROTECTION GOALS AND STRATEGIES TO MEET SUSTAINABLE HARVEST OBJECTIVES

Old growth forests have been harvested and young forests regenerated over vast areas of British Columbia using increasingly intensive management practices. While such practices may speed up and increase the amount of wood fibre produced, they tend to limit the diversity of stand development phases (or seral stages). Such activities greatly shorten the time between logging disturbances relative to the potential range of natural disturbance regimes, leading to a decrease in forest function and structure at the landscape level. Intensive forest management historically has produced forests that are structurally and compositionally homogeneous, resulting in a loss of habitat variability and biodiversity. Fortunately, the same silviculture treatments can be modified to maintain or enhance desired habitat attributes, and aid in increasing biodiversity.

The Sustainable Harvest Strategic Objective provides a means to implement activities which not only enhance the value and volume of timber on the forested land base, but at the same time make significant contributions to sustainable forest management through the maintenance and enhancement of habitat and biodiversity values.

The Ministry of Environment, Lands and Parks habitat protection program has a mission of "sustaining the diversity and integrity of British Columbia'a ecosystems through habitat protection"[1]. There are five goals in the Habitat Protection Program, of which four can be applied to the Sustainable Harvest Strategic Objective. Strategies to achieve these goals are listed below each goal statement.

Goal #1: Maintain the diversity of habitats and ecosystems:

Strategies to achieve this include:

- setting regional and district strategies and priorities for protecting and enhancing habitat/biodiversity and water quality values;
- developing landscape unit level plans detailing the location, type and extent of silviculture treatments best suited for habitat enhancement projects; and
- developing an information system to aid in the planning, monitoring and evaluation of habitat/biodiversity management of young forests.

Goal #2: Advocate resource management alternatives that favour ecological integrity.

Strategies to achieve this include:

- identifying effective habitat types for managing identified wildlife species through site series mapping and inventories, and information already complied by the Conservation Data Centre;
- developing guidelines to maintain and enhance existing habitat attributes within effective habitat types; and

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[1] *Strategic Direction for Habitat Protection, Habitat Protection Program*, Ministry of Environment, Lands and Parks, March 1996.

- developing guidelines to restore important habitat attributes in second/young growth forests identified during landscape unit planning.

Goal #3: Support, enhance and share an ecological knowledge base.

Strategies to achieve this include:

- dividing landscape units into different resource management zones for the purpose of silviculture planning. Specific guidelines will apply to each management zone and be incorporated into Silviculture Agreements (replacement to the Five Year Silviculture Plan); and
- promoting strategies and information to licensees and the Ministry of Forests who are developing silviculture plans and prescriptions.

Goal #4: Promote the understanding of ecological principles through communication and education.

Strategies to achieve this include:

- participating in silviculture activity and investment planning; and
- developing extension and training products that transfer knowledge of ecological principles and their applications to operational implementation of higher level and strategic plans.

1.2 MELP PACIFIC REGION SUSTAINABLE HARVEST STRATEGIC GOAL AND OBJECTIVES[2]

The Ministry of Environment, Lands and Parks (MELP) Pacific Region's strategic goal for Sustainable Harvest activities is to:

Improve the protection, maintenance, and enhancement of wildlife and fish habitat, biodiversity and water quality in second growth/young forests ***through planning, monitoring and training/extension****.*

Biodiversity planning falls generally under Landscape Unit planning. The following aspects of Landscape Unit planning (derived from SPR section 5) can, to a certain degree, be affected by incremental silviculture activities:

- retention of old growth forest (attributes);
- seral stage (forest functions) distribution;
- landscape connectivity;
- stand structure; and
- species composition.

The specific objectives for planning in 2001/02 are to:

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[2] These objectives will be achievable at the current level of resourcing, which is approximately 0.5-1.0 FTEs for SH in the Pacific Region (spread between 4 MELP regions) and support from headquarters. Should these resources *not* be available, these objectives will have to be modified.

- provide input and participate in the completion and revision of Incremental Silviculture Strategies (ISS);
- develop Silviculture Agreements which describe regional and district standards and guidelines for protecting, maintaining and enhancing environmental values in second/young growth forests for: 2 forest districts in MELP Region 1 (Campbell River and South Island); 1 forest district in MELP Region 2 (Sunshine Coast); and the Mid-coast Forest District in MELP Region 5; and revise the Silviculture Agreement for the Chilliwack Forest District (MELP Region 2)[3];
- develop an information system to track and report on achievement of habitat/biodiversity management objectives;
- improve integration of fish, wildlife and water resource values with silviculture planning and implementation by collaborating with watershed restoration specialists and planners;
- examine opportunities to link projects with other programs and funding sources, (e.g., links between SH and Terrestrial Ecosystem Restoration Program, links between Forest Renewal BC and Habitat Conservation Trust Fund projects); and
- continue the development of the RMP throughout the year, expanding the plan to include activities in second/young growth forests that are not necessarily eligible for Forest Renewal BC funding.

The specific objectives for monitoring in 2001/02 are to:

- develop a monitoring plan for the Pacific Region, ranking the priority for monitoring by SH activity, Landscape Unit, and other factors, for a five-year period;
- conduct monitoring activities on riparian restoration activities to refine monitoring and assessment methods, and assess completed treatments relative to stated or desired objectives and results proposed in prescriptions;
- refine monitoring procedures and conduct monitoring activities on riparian restoration activities to assess the effectiveness of treatments in maintaining habitat and ecosystem function and diversity;
- ascertain that ongoing silviculture treatments are conducted in compliance with the Forest Practices Code (by collaborating with Compliance and Enforcement personnel); and
- ensure results of monitoring are used to refine practices, goals and priorities.

The specific objective for training in 2001/02 is to:

- provide training/extension for licensees, contractors and Ministry of Forests staff related to managing environmental values and non-timber when prescribing and implementing treatments, and monitoring results in second/young growth stands.

2.0 MELP PRIORITIES FOR SUSTAINABLE HARVEST ACTIVITIES

For the purposes of setting targets and evaluating performance measures, SH activities and individual treatments should be classified under the heading "habitat supply/biodiversity" when the primary or secondary objectives are to maintain or enhance habitat supply or biodiversity. Treatments are grouped into two categories:

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[3] Silviculture Agreements in the remaining districts to be completed in 2002/03.

1. Riparian, ie, work that is conducted in the Riparian Management Area (RMA) (Riparian Reserve Zone and Riparian Management Zone); and
2. non-riparian, work conducted outside of an RMA.

The types of treatments and silviculture regimes include combinations of the following:

- treatment prescriptions;
- site preparation necessary before fill-in planting (usually non-chemical methods, or machine work conducted along with stream and stream bank restoration);
- fill-in planting of coniferous and or deciduous tree species, usually in clusters or non-regular patterns;
- conifer release (cutting of undesirable deciduous trees and brush;
- brushing (cutting of undesirable brush species);
- juvenile spacing of conifers and deciduous tree species, usually in clusters or non-regular patterns;
- pruning (may also include pruning of forage species);
- girdling, topping and similar treatments to produce snags and old growth features earlier in the stand's development;
- fertilizing to speed up attainment of old growth attributes; and
- studies, which could include: analysis of information to aid in making decisions for planning and treatment selection; adaptive management design and layout of projects; and monitoring of the effectiveness of treatments.

Silviculture treatments are usually considered "backlog" if the area has not yet met free growing standards, and "intensive" or "incremental" if the area has met free growing standards. When the primary or secondary objectives for the area are for habitat/biodiversity management, the free growing standards should reflect conditions desired in order to meet these objectives. Guidelines for such standards have been developed for Grizzly bear management on coastal sites[4]. Otherwise, the prescription writer and District Manager (and Designated Environment Officer for riparian areas) are encouraged to develop and approve site specific standards, in consultation with MELP personnel and consultant biologists.

The priorities for SH activities in the Pacific Region are:

1. Riparian Management Area restoration and rebuilding.
2. Spacing/pruning for forage production for Identified Wildlife and species identified in Landscape Unit planning.
3. Enhancing/creating/speeding up the development of old growth attributes in units with a history of high levels of harvesting (i.e., where existing age class distribution lacks substantial old growth to meet habitat/biodiversity objectives for that unit).

Specific wildlife species and treatments that are a high priority[5]:

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[4] See Establishment to Free Growing Guidebook, June 2000.

[5] See Appendix 1 – Planning Criteria and Options for Sustained Forage Adjacent to Ungulate Winter Range.

1) **Black-tailed deer and Roosevelt elk spring forage enhancement.**
During winters of heavy snowfall, ungulates expend extra energy moving through deep snow, while taking in less energy from forage than normal. By spring, they may be weak and near starvation. Quality spring forage is needed close to winter ranges.

2) **Black-tailed deer and Roosevelt elk winter forage enhancement.**
In several landscape units dominated by second growth, with few widely spaced winter ranges, there is a need to create additional winter ranges by hastening the development of old growth forest attributes.

1) **Deer and elk winter thermal cover enhancement**
In landscape units characterized by large areas in early seral stages (herb, shrub-seedling, and sapling-pole) of forest succession, enhancement of deer and elk winter thermal cover is a priority at low elevations (< 300 meters) to help ensure ungulate survival during severe winters.

4) **Grizzly bear forage enhancement**
Specific forest ecosystems in coastal valley bottoms are to be managed for grizzly bear forage to offset the loss of forage from forestry operations. These ecosystems occur in moist, nutrient rich, areas of the Coastal Western Hemlock Zone. (See Establishment to Free Growing Guidelines. Revisions to the list of priority landscape units will be completed by December 2000).

5) **Old growth attribute enhancement**
In heavily harvested landscape units characterized by second growth it is a priority to re-establish old growth attributes on selected sites to meet the requirements of old growth dependent species (e.g., marbled murrelet, Queen Charlotte goshawk, and cavity nesting birds and mammals). These attributes can be established in existing Wildlife Tree Patches (WTPs), potential WTPs, Riparian Management Areas, or other selected sites that will be retained from harvest for at least one rotation, e.g., within retained portions of variable retention harvesting.

6) **Riparian restoration**
Prior to implementation of the Forest Practices Code, forests were often harvested to the edge of waterbodies. Frequently, these riparian areas regenerated to thick brush with poor conifer representation, or thick conifer cover without a necessary deciduous component. In these areas, it is a priority to re-establish forest cover to meet habitat/biodiversity objectives (e.g., produce large trees that can become coarse woody debris). It is estimated that approximately 50% of the cutblocks harvested to the banks of waterbodies will need treatment.

Regional guidelines and planning criteria are included in Appendices 1 and 2. There is a need for revision and extension of this information in 2001/02.

Note: The Terrestrial Ecosystem Restoration Program has links to SH objectives. It is imperative that current SH activities *avoid* creating situations that would require future ecosystem restoration.

3.0 CLARIFICATION OF TREATMENT OBJECTIVES UNDER ENHANCING ENVIRONMENTAL VALUES AND SUSTAINABLE HARVEST OBJECTIVES

When a Forest Renewal BC funded SH treatment is being conducted adjacent to logged riparian areas, measures should be taken to re-establish habitat conditions similar to those that existed prior to logging in the Riparian Management Area. Activities to accomplish these objectives are eligible for funding under Backlog or Enhanced Forestry. Where possible, SH projects should be linked to Watershed Restoration Program (WRP) projects. The different objectives between activities under the two Forest Renewal strategic objectives can be clarified as follows:

1) WRP projects primarily have objectives to restore in-stream and adjacent streambank fish habitat, whereas, Enhanced Forestry and Backlog projects would have the corresponding objectives of restoring riparian terrestrial ecosystem functions, restoring riparian wildlife habitat and contributing to sustainable forest management.
2) Projects should be planned under the WRP when the objectives are to achieve biodiversity objectives in the RRZ, achieve in-stream water and or fish habitat objectives, and *no* SH activities are planned for outside the RRZ.
3) Where achieving biodiversity objectives in the RRZ might contribute to timber supply and flow, projects can be considered for funding under the SH. When there are SH projects planned for the adjacent area outside the RRZ, the work in the RRZ can be included under the SH funding.
4) WRP projects are selected according to the priority ranking of watersheds, and the priority for Sustainable Harvest projects have a separate ranking process related to silvical and biological opportunities.
5) Riparian overview assessments and experience in the WRP can contribute to estimating the amount of riparian restoration necessary to achieve sustainable forest management objectives, however, refinement of this information is needed to develop a comprehensive plan for SH activities.

4.0 STATUS OF PLANNING FOR SUSTAINABLE HARVEST ACTIVITIES TO MEET HABITAT/BIODIVERSITY OBJECTIVES

In the Pacific Region, the following information can be used to plan SH activities:

1. Watershed assessments have been completed for the Pacific Region, and the 20% highest priority watersheds have been identified for the WRP.

2. In some districts, forage plans have been completed by licensees, to identify short and long term management objectives. These plans can only be completed once ungulate winter range development has been confirmed. (For example, the Squamish Forest District may provide an opportunity to use forage plans to identify SH opportunities).

A method for identifying SH opportunities was developed and tested in two management units on Vancouver Island. This method should be applied to other management units, which will aid in making investment decisions related to activities, scheduling, and ranking by Multi-Year Agreement holder and Landscape Unit.

Prescriptions have been developed in many districts for riparian restoration activities under the WRP, which could be adapted and linked to SH activities adjacent to the riparian areas. Any issues around the funding mechanism (i.e., which program funds the riparian work) should be dealt with promptly, in order for the high priority work to be conducted within the biological treatment windows. Resolution of funding issues related to treatments conducted in conjunction with revenue producing activities is needed.

Work is in progress to revise and update the priority list for developing Grizzly bear forage. This list is based on Landscape Unit objectives, and will be completed by December, 2000. The location of specific SH projects for Grizzly bear forage development can be finalized when the list is revised.

Type 1 Incremental Silviculture Strategies (ISS) for all TSAs in the Pacific Region were reviewed to develop the recommendations in Appendix 4. They are all dated 1998, and were based on Timber Supply Review (TSR) 1 data. Type 1 ISSs have been completed for TFL 39 (Weyerhaeuser) and TFL 45 (International Forest Products), and the remaining TFLs are scheduled for completion in 2000/01. All of the TSA and TFL ISSs should be revised in 2001/02 to include habitat/biodiversity components, as per recommendations in the report, *Ecosystem Assessment and Habitat Supply*, by Tory Stevens, 1999.

Note: The process of developing Incremental Silviculture Strategies includes listing "government's objectives", as determined by the Ministry of Forests in legislation, Allowable Annual Cut (AAC) determinations, and the Clayoquot Scientific Panel report. These strategies do *not* include government's objectives related to environment legislation, higher level plans, and strategic plans such as the Identified Wildlife Management Strategy and the Grizzly Bear Conservation Strategy. All strategic plans related to forest management should be consulted during the revision of the ISSs.

Appendix 3 contains the summary table from the 1999/2000 SH RMP, indicating the licensee's submission. Appendix 4 summarizes the licensee submissions and the recommended SH activities to meet habitat/biodiversity objectives.

5.0 SUMMARY OF RECOMMENDED REGIONAL LEVEL ACTIVITIES

The following regional level activities require funding, and they may be completed for one or more management units that span a district or sub-regional area. In other words, these activities are not specific to one Multi-Year Agreement holder. Over the next 5-year period, all work recommended below should be completed for the entire Pacific Region. The amount and schedule of work per year should be selected according to when information from other plans will be available, and the existing resources in any particular year.

The consequences of *not* funding and completing these projects will be discussed with the Ministry of Forests and Forest Renewal BC as part of the regional investment planning process. Most of the activities related to planning need to involve all Multi-Year Agreement holders and the MoF, as well as MELP personnel. The best method is to use a consultant for the review of plans and documents and for facilitation of meeting(s) to develop the management unit plan.

Activity	Objectives and Strategy	Estimated Cost
1. Update ISSs for TSAs and TFLs to include habitat/biodiversity and water quality objectives.	Provide a basis for future RMPs.	Covered in headquarters RMP.
2. Analyze EF silviculture opportunities in management units, including opportunities for commercial thinning and using EF treatments to meet OG targets. Set targets for activities, based on government's objectives and licensee management and working plans.	Improve the overall investment related to SH. Examine Watershed Assessments, Forage Plans, etc. to find information linkages and gaps in planning SH activities. Examine the feasibility of using existing planning tools, e.g., Watersheds BC, forest cover GIS, etc. Forage Plans may be revised as part of this project. OG portion can only be completed once OGMAs have been established. The targets being set should link to the performance measures being developed for SH.	$50,000
3. Support MoF work looking into rehabilitation of a) NPBr; b) voids; and c) backlog NSR, ensuring environmental objectives are considered.	May not be a specific fundable contract, but MoF should be recommending funding for this project, as related to TSR assumptions and ISS analysis. Risk assessment developed in the Robson Valley EFMPP could be used.	
4. Monitoring plan for region. (Monitoring activities to be listed by management unit).	The monitoring plan reflects the regional priorities, based on the need for local knowledge to support guidelines and standards. Developing the plan will contribute to building support for effectiveness monitoring, and should help MYA holders to incorporate monitoring activities into their RMP submissions. MoF may be interested in expanding this project to include monitoring for the effectiveness of meeting non-habitat/biodiversity objectives.	$10,000
5. Develop and revise Silviculture Agreements for five districts in 2001/02, remaining districts in following 1-2 years.	Pilot developed in Chilliwack district 98-99. The SA is a process that builds support for conducting backlog and enhanced forestry activities to meet habitat/biodiversity objectives. It clarifies expectations, and streamlines development of SMPs. Funding for 2002/03 needed to cover developing SAs for the remaining districts.	$25,000

6. Compliance audit to determine if SH activities are meeting FPC.	Funding not expected from FRBC. Link to MoF responsibilities.	
7. Training and extension plan and products.	Should be a headquarters function with specific products being developed at a provincial level.	

APPENDICES

1 Planning Criteria and Options for Sustained Forage Adjacent to Ungulate Winter Range

2 Habitat Protection Guidelines for Planning and Conducting Silviculture Treatments

3 1999/2000 SH RMP Summary Table for Habitat Supply Activities

4 Recommended SH Activities to Meet Habitat/Biodiversity Objectives by Forest District

5 Communications Log

6 Summary of Proposed Activities

APPENDIX 1 – PLANNING CRITERIA AND OPTIONS FOR SUSTAINED FORAGE ADJACENT TO UNGULATE WINTER RANGE[6]

HABITAT PROTECTION BC ENVIRONMENT – REGION I

In October 1990, the B.C. Ministry of Forests and the B.C. Ministry of Environment released the special series report Deer and Elk Habitats in Coastal Forests of Southern British Columbia (J.B. Nyberg and D.W. Janz, technical editors). This report is more colloquially referred to as the IWIFR (Integrated Wildlife Intensive Forestry Research) Handbook, resulting from 10 years of intensive field research on the habitat requirements and behaviour of deer and elk in coastal forests. The report deals with the fundamental habitat requirements of food and shelter for deer and elk. The importance of special winter habitats, which provide snow interception cover and within-stand forage, is described. In addition, the importance of silvicultural management for provision of spring and summer forage for ungulates is also emphasized.

Although neither the term "forage" or "spring forage" are defined under the Forest Practices Code Act or Operational Planning Regulation, both documents provide a supporting framework to allow planning and operations conducive to sustaining forage for ungulates. Particular attention should be given to the following references:

FPC Act:

41. (1) (b) the district manager is satisfied that the plan or amendment will adequately manage and conserve the forest resources of the area to which it applies.

FPC Operational Planning Regulation:

PART 2-ADMINISTRATION

6. Site-specific variation within plans
7.

PART 3-FOREST DEVELOPMENT PLANS

11. (3)(a)(ii) Maximum cutblock size and exemptions for managing wildlife values

19. (1) Category I cutblocks for information purposes only

PART 5-SILVICULTURE PRESCRIPTIONS

39.(1)(a)(ix)(B) Stand densities required to achieve wildlife habitat management objectives

39.(1)(b)(iii) The species and function of any trees that will be left standing to satisfy non-timber resource objectives

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[6] Developed for MELP Region 1 and could be applied throughout the Pacific Region.

39.(2)(d) Mapable reserves, including wildlife tree patches

39.(3)(c) Silvicultural system, species and function of any trees to be left standing

39.(3)(m)(ii) Site conditions to accommodate forest resources identified in the FDP or any HLP

39.(3)(m)(iii)(A) Known non-timber resources on or adjacent to the area under the prescription

39.(3)(o) Stocking requirements

47.(1) Review and comment opportunity for SP's and amendments

49.(2)(b) Objectives of stand management prescriptions to restore, maintain or enhance other forest resource values

50.(2)(b)(i)(A) The location and area identifier of the treatment areas and approximate location of special areas.

50.(2)(b)(ii)(D) Approximate location of wildlife tree patches

50.(3)(b) The proposed strategies, if any, to be taken to mitigate impacts on non-timber resources on or adjacent to the area under prescription

51.(1) Provision by the district manager for review and comment of SMP's

The following recommendations are provided to guide harvest planning and subsequent silvicultural interventions such as spacing, pruning and thinning to provide sustained spring forage in agreed to management zones adjacent to deer winter ranges.

A. Planning Criteria and Special Considerations:

1. Delineate a Spring Forage Management Zone (SFMZ) up to 2 km on either side of a winter range, less than 800 m elevation, preferably on southerly aspects (SE-SW) on slopes ideally between 40-100%.

2. Evaluate topographic shading from adjacent mountains and delineate SFMZ to exclude areas shaded in March – April.

3. Calculate the preferred forage production opening size based on the size of the SFMZ, the average rotation age for the SFMZ and the average time to crown closure (forage limiting conditions).

   SMFZ (ha) divided by:

   $$\frac{\text{Mean Rotation Age}}{\text{Mean Crown Closure Interval}} = \text{\#ha/forage interval (harvest entry)}$$

Examples:

Regen Species	SFMZ (ha)	Rotation Age (yrs)	Crown Closure Interval (yrs)
1) Hemlock	160	80	10

160 divided by $\frac{(80)}{10}$ = 20 ha/10 yrs

2) Fir	160	40	20

160 divided by $\frac{(40)}{20}$ = 80 ha/20 yrs

4. Design openings to optimize solar input (round or square configurations). The minimum clear cut equivalent size is 2.5 ha (based on 40 m high trees), optimal size is 16 ha (400m x 400m). Single tree or small aggregate retention is the preferable VR strategy in openings 16 ha or smaller to maximize forage production.

5. Optimize forage production on best forage producing site series (see Nyberg & Janz 1991).

6. Optimize forage production over time by introducing silvicultural interventions, namely, spacing, pruning and thinning.

7. Assess opportunities for site specific forage enhancement from burning, but avoid any fertilization treatments until after stands have achieved crown closure.

B. Planning Options Based on Seral Conditions:

1. Where there is ample opportunity for harvesting within SFMZ in either old growth or advanced second growth, manage sustained forage through rotational harvest intervals and maximize production by optimizing block size and configuration.

2. Where there is limited harvest opportunity in SFMZ due to lack of old growth or advanced second growth, use rotational harvest intervals where possible, but initiate commercial thinning where feasible in older second growth or spacing/pruning entries in younger stands. Thinning the profile may be much better than simply “thinning from below” as it will open up more area to sunlight.

3. North facing winter ranges may, in some cases, warrant some site specific consideration, otherwise, spring forage management based on the criteria above does not apply.

4. Winter ranges surrounded by inoperable forest do not qualify for designation of a spring forage management zones per se, but nearest harvest should be assessed site specifically for their forage value.

Ian McDougall, R.P.Bio.
May 9, 2000

APPENDIX 2 – HABITAT PROTECTION GUIDELINES FOR PLANNING AND CONDUCTING SILVICULTURE TREATMENTS[7]

INTRODUCTION

The Forest Practices Code (Operational Planning and Silviculture Practices Regulations) outlines non-timber resources and related information to be addressed in Silviculture Prescriptions and Stand Management Prescriptions. This document provides habitat protection and enhancement measures to follow when planning and conducting silviculture treatments (site preparation, brushing, weeding, juvenile spacing, precommercial and commercial thinning, pruning and fertilisation) described in Silviculture Prescriptions and Stand Management Plans. These guidelines, together with any site-specific recommendations provided by the Ministry of Environment, Lands and Parks and direction from the landscape level and higher level plans, should incorporate most habitat protection silviculture-related objectives.

WILDLIFE TREES

When planning the number of wildlife trees and tree patches follow recommendations in the Biodiversity Guidebook. Planning for the retention and recruitment of wildlife trees must be done before the start of forest harvesting. Wildlife trees should be designated by a qualified wildlife-danger tree assessor on a site specific basis. Wildlife trees and patches are to be maintained and managed throughout post-harvest silviculture treatments.

- Wildlife trees and wildlife tree patches remaining from the harvest should be retained. The edges of wildlife tree patches should be made windfirm and no-work zones (up to 1.5 tree length radius, depending on structure and lean) delineated around individual wildlife trees as required.

- If blowdown occurs in wildlife tree patches leave this material as Coarse Woody Debris (CWD).

- During juvenile spacing, retain patches of larger and smaller trees within the spaced stand to ensure the presence of wildlife trees as the stand matures.

- When planning commercial thins, also plan for the continued existence and future recruitment of wildlife trees.

- In Riparian Reserve Zones where danger trees are leaning into the cutblock or Riparian Management Area (which may also have silviculture activity in it), the trees should be topped to 5 m and the tops left in the reserve or management zones as CWD.

- It may be possible to leave untreated wildlife tree patches in blocks with mistletoe infestation. Once a wildlife tree patch is designated, trees within a 10 metre zone along the outer perimeter could be girdled. This would provide an effective barrier between the patch and the rest of the block and limit the spread of mistletoe. Timing of the girdling to just before planting or other silviculture treatment is important, so that the 10 metre perimeter of dying trees do not become possible hazard trees requiring felling, individual danger tree assessment, or a further increase in the no-work zone. This approach should also work in riparian areas.

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[7] Developed for MELP Region 1 and could be applied throughout the Pacific Region.

- All safe snags and stumps less than 5 m in height should be left for use as wildlife trees.

- No tree containing a bear or wolf den, an active bird nest, or any "large" nest is to be felled without consultation with MELP Habitat Protection staff.

- Some species specific requirements to consider:

  for small species of cavity-nesting birds, such as chickadees and nuthatches, leave trees 10-30 cm diameter at breast height (dbh);

  for larger species of cavity nesters, including woodpeckers, owls or marten leave trees at least 30 cm dbh;

  for cavity-nesting ducks (goldeneyes, wood ducks and mergansers) leave suitable large diameter (>30 cm dbh) nest trees along small lakes and ponds. The waterbodies need not be fish bearing.

COARSE WOODY DEBRIS

Maintaining CWD after harvesting is a critical element of managing for biodiversity. CWD should be managed in conjunction with wildlife trees, retained green trees and other reserve areas. Standing trees are the sources of future CWD. A long-term approach to CWD management needs to consider both the distribution and quantity of future sources.

- Maintain a full range of decay classes (from class 1 = "hard" to class 5 = "crumbling") of CWD. Different functions and ecosystem processes are dependent on CWD in different stages of decay.

- Plan for the use of retention patches in spacing and commercial thinning. Natural death of trees within patches will contribute to CWD.

- During reforestation, options to accommodate CWD objectives include lowering the overall stocking density standards, reducing the minimum allowable distances between trees, and using a clumped planting distribution pattern.

- Use variable spacing densities within stands. A more natural distribution of CWD will result as trees die.

- Do not remove non-competing deciduous tree species. Deciduous species such as black cottonwood, red alder and bigleaf maple are fast growing and short-lived relative to conifers. They may provide a "quick" source of CWD in areas where such material is lacking.

- If blowdown occurs in wildlife tree patches or riparian reserves zones leave this material as CWD.
- Leave some seed and shelterwood trees as long-term CWD recruits.
- During site preparation, minimize the burning of piles and accumulations. Use techniques other than broadcast burning to reduce fire hazard and create plantable sites. Where possible, maintain CWD in decay class 4 and 5 rather than disturbing or breaking up with heavy equipment.
- Modify whole-tree harvesting by limbing and topping on site.
- Maintain coarse woody debris wherever it does not interfere with planting. retain both solid logs and decaying materials as these provide a range of habitats and ensure a supply of decaying materials during mid-rotation. Woody debris should be retained on at least 10% of the area harvested.
- Piles of slash and woody debris do not take the place of CWD scattered around the block. Some large non-merchantable CWD should be scattered on the block.
- Maintain long (greater than 6 m) and large diameter material (greater than 40 cm) because it provides better foraging habitat and escape cover for small animals, decays more slowly, and presents less fire hazard than does smaller material.
- Avoid blocking big game trails with debris.
- Reduce slash to a depth of 20 cm or less on 75% of any area important for deer and elk forage production.
- Scatter any wood chips to a depth less than 3 cm to allow establishment of grass and herbaceous plants.
- Avoid continuous concentrations of slash high above the soil because they restrict movement of big game.
- By spacing stands when trees are young large accumulation of slash may be avoided.

STRUCTURAL AND VEGETATION HETEROGENEITY

Structural Diversity

Maintaining a variety of canopy layers (vertical structure) and spatial patchiness (horizontal structure) is important for conserving biodiversity. Stand management activities should maintain the natural variety of canopy layers and gaps among and within stands across the landscape. Within larger stands this can be achieved by the use of variable stocking densities at planting in combination with spacing or thinning activities.

- When spacing or thinning, patches or strips can be left untreated on some sites so that dense patches develop.
- Wider spacing of patches can be used to maintain a partially open canopy that will promote understory vegetation.
- Non-merchantable defect trees should be left as recruitment snags rather than removed.
- Patches of advance regeneration can provide structural diversity.
- During tree pest and disease treatments some areas should be left untreated.
- Openings should be irregularly shaped to more closely reflect natural disturbance patterns.
- Retaining patches of larger and smaller trees within the spaced stand will help ensure the presence of wildlife trees as the stand matures.
- Consider spacing different areas of the stand to a variety of stocking levels.
    1) Higher stocking levels provide security and thermal cover for wildlife.
    2) Leave unspaced areas in no-work zones around wildlife trees and sound snags, and around swamps, marshes, lakes and streams.
    3) Space some areas to lower stocking levels (down to 400 stems per hectare) to enhance forage production.

Vegetation Species Diversity

Promote a mix of plant species. A stand with several tree and understory species will tend to support more species of animals than a stand that contains only one tree species. Ensure that all plant species naturally occurring in an area continue to be represented following silviculture treatments.

- Retain patches of brush along streams, on low-productivity microsites (e.g., rock outcrops, wet soils), around live tree/snag retention areas, or wherever brush is not anticipated to be a severe problem. On some sites, fast growing hardwoods (e.g. black cottonwood and red alder) may be better able to compete with brush than conifers. Rather than controlling brush on these areas, it may be preferable to plant hardwoods instead of conifers.
- Consider prescriptions to reduce the area requiring brushing by restricting vegetation management to the vicinity of crop trees.

- Maintain some areas with a low stocking density to encourage the growth of understory vegetation throughout the rotation, and encourage the rapid growth of some trees.

- Where suited to the site, stands should be regenerated with a mixture of tree species rather than with a single species.

- Retain live residual stems of any species whenever possible. When residual stems are dense enough to complete with conifer crop trees, leave small clumps of individual stems for wildlife habitat. Red-osier dogwood, mountain ash, saskatoon, western yew should be retained as a general rule.

Willow more than 3 metres in height may be cut, except the occasional clumps that are not competing with conifers. To help ensure adequate ungulate winter and spring forage maintain a range of willow age classes on any particular site. Retention of 5 to 10 percent of tall willow stems will usually be sufficient for this purpose.

OTHER CONSIDERATIONS

Managing Wildlife Visibility

When conducting chemical or manual brushing and weeding treatments, juvenile spacing, thinning and pruning screen wildlife from view by maintaining an untreated buffer along roads, unless a safety hazard exists (e.g., blind corners). Similarly, avoid treating long stretches of game trails.

Isolated patches of dense vegetation within otherwise open treatment sites should be retained as hiding and thermal cover for wildlife. Examples of cover patches include dense residual or second growth clumps of alder, small patches of dense conifers such as fir, and multispecies shrub thickets on small microsites such as seep or bordering water bodies. Criteria for cover patch size should be based on vegetation density so that patches are at least large enough to conceal wildlife from lateral visibility.

Ungulate Spring Forage

If a vegetation management unit occurs within 500 metres of an ungulate winter range, herbicide or manual treatments will be conducted in a manner which removes no more than 50 percent of deciduous brush species (excluding red alder) from the zone annually to ensure adequate forage. If large treatment units are in close proximity to one another, do not treat all units in the same year. Space treatments over 2 to 3 years.

Grizzly Bear Forage

Specific forest ecosystems in Mainland coastal valley bottoms are to be managed for both conifer and grizzly bear forage production. These ecosystems occur in nutrient rich areas of the Coastal Western Hemlock Zone (see *Guidelines for Integrating Grizzly Bear Habitat and Silviculture in Coastal British Columbia* and *Establishment to Free Growing Guidelines*, MoF). They are characterised by clusters of mature conifers, with numerous groupings of deciduous trees, open brushy areas, and skunk cabbage swamps. To mimic these conditions a clumped distribution of fewer crop trees is recommended, leaving open areas for growing berry-producing shrubs and other forage species. Herbicide or manual treatments may be used selectively in the conifer clusters, but not in the open areas.

Grant Bracher, PhD
Region 1, 1999

APPENDIX 3 – 1999/2000 SH RMP SUMMARY TABLE FOR HABITAT SUPPLY ACTIVITIES

TABLE 1: Sustainable Harvest Habitat Supply Activities

1	2	3	4	5	6					7	8	9
Primary Strategic Decision Area	**Secondary Strategic Decision Area**	**Management Unit**	**Resource Objective**	**Activity Proposed**	**Plan Goals (Hectares)**					**Required Funding for 00/01 ($,000)**	**2000/2001 Average Unit Cost ($/ha)**	**Priority**
					2000/01	**2001/02**	**2002/03**	**2003/04**	**2004/05**			
Strategic Direction for Habitat Protection	Biodiversity Guide	See Table 2 - 26 Region 1 Landscape Units	Deer and elk forage and thermal cover enhancement (shallow snow pack zone < 300 m elevation)		100	200	250	250	250			H
Towards an Old Growth Strategy	Landscape Unit Planning Guide	See Table 3 - 29 Region 2 Landscape Units; Vancouver River Watershed	Deer and elk forage and winter range enhancement (moderate snowpack zone 300-600 m elevation)	Canfor; 2000/01 - Treatment of 100 ha	100	125	200	200	200	212.5	2125	M - H
				TW; 2000/01 - Assess 200 ha; 2001/2002 - Treatment						16	80	
Vancouver Island Land Use Plan	TFL 6 - Management and Working Plan 8	See Table 4 - 27 Region 5 Landscape Units		WFP; 2000/01 - Assess 40 ha; 2001/02 - Treatment						6	150	
Resource Management Zones for Vancouver Island	TFL 19 - Management and Working Plan 8			MB; 2000/01 - Treatment of 100 ha						180	1800	
Central Coast Land and Coastal Resource Management Plan	TFL 25 - Management and Working Plan 9 TFL 37 - Management and Working Plan 8 TFL 39 - Management and Working Plan 7 TFL 44 - Management and Working Plan 3 TFL 45 - Management and Working Plan TFL 46 - Management and Working Plan 3 TFL 47 - Management and Working Plan 2		Deer forage and deer winter range enhancement (lower portion of deep snowpack zone > 500 m but < 800 m elevation)		50	50	50	50	50			L
Strategic Direction for Habitat Enhancement	Biodiversity Guide	See Table 2 - 27 Region 1 Landscape Units	Old growth attribute enhancement		50	50	50	50	50			L

Towards an Old Growth Strategy	Landscape Unit Planning Guide	See Table 3 - 33 Region 2 Landscape Units; Vancouver River Watershed										
Vancouver Island Land Use Plan	Identified Wildlife Management Strategy	See Table 4 - 28 Region 5 Landscape Units										
Resource Management Zones for Vancouver Island	TFL 6 - Management and Working Plan 8	See Table 5 - 11 Region 6 Landscape Units										
Central Coast Land and Coastal Resource Management Plan	TFL 19 - Management and Working Plan 8											
	TFL 25 - Management and Working Plan 9											
	TFL 37 - Management and Working Plan 8											
	TFL 39 - Management and Working Plan 7											
	TFL 44 - Management and Working Plan 3											
	TFL 45 - Management and Working Plan											
	TFL 46 - Management and Working Plan 3											
	TFL 47 - Management and Working Plan 2											
Strategic Direction for Habitat Protection	Biodiversity Guide	See Table 2 - 9 Region 1 Landscape Units	Grizzly bear forage enhancement		100	200	250	250	250			H
Towards an Old Growth Strategy	Landscape Unit Planning Guide	See Table 3 - 24 Region 2 Landscape Units; Vancouver River Watershed										
	Grizzly Bear Strategy	See Table 4 - 26 Region 5 Landscape Units										
	Guidelines for Integrating Grizzly Bear Habitat and Silviculture in Coastal British Columbia											
	TFL 25 - Management and Working Plan 9											
	TFL 45 - Management and Working Plan											
	TFL 47 - Management and Working Plan 2											
Strategic Direction for Habitat Protection	Biodiversity Guide	See Table 2 - 9 Region 1 Landscape Units	Riparian restoration	Canfor; 2000/01 - Treatment of 100 ha	100	200	250	250	250	212.5	2125	H
Vancouver Island Land Use Plan	Landscape Unit Planning Guide	See Table 3 - 26 Region 2 Landscape Units; Vancouver River Watershed		MB; 2000/01 - Treatment of ? ha						?	?	
Resource Management Zones for Vancouver Island	Identified Wildlife Management Strategy	See Table 4 - 23 Region 5 Landscape Units										
Central Coast Land and Coastal Resource Management Plan	TFL 6 - Management and Working Plan 8	See Table 5 - 11 Region 6 Landscape Units										
	TFL 19 - Management and Working Plan 8											

	TFL 25 - Management and Working Plan 9 TFL 37 - Management and Working Plan 8 TFL 39 - Management and Working Plan 7 TFL 44 - Management and Working Plan 3 TFL 45 - Management and Working Plan TFL 46 - Management and Working Plan 3 TFL 47 - Management and Working Plan 2									

NOTES:

Column 1 - Strategic plans that contain the habitat supply/biodiversity objective.
Column 2 - Secondary plan/initiative that contains a more specific reference to the habitat supply/biodiversity objective.
Column 3 - Management units where habitat enhancement is a priority.
Column 4 - Resource objective; habitat enhancement activities of high importance to MoELP.
Column 5 - Habitat enhancement activities proposed by forest licencees.
Column 6 - The target number of hectares that MELP would enhanced.

Canfor - Canadian Forest Products Ltd.
WFP - Western Forest Products Ltd.

MB - MacMillan Bloedel Ltd.
TW - Timberwest Forest Products Ltd.
? - Information unavailable at time of RMP preparation

APPENDIX 4 – RECOMMENDED SH ACTIVITIES TO MEET HABITAT/BIODIVERSITY OBJECTIVES BY FOREST DISTRICT

1.0 OVERVIEW

Text and notes from the Incremental Silviculture Strategies is shown in black text, except where noted. Recommendations from MELP Regional/District Staff shown in blue text. Comments from Colene Wood are shown in red text.

1.1 HABITAT SUPPLY ISSUES

"Although in some cases managing habitat for individual species cannot be ignored, the fundamental concept of habitat management is not single species orientation,: rather, the focus is on maintaining a mosaic of habitats across a landscape to enable plant and animal populations to survive in an integrated way. In the absence of adequate habitat data, forest cover data is often used as a surrogate measure. For example, in Idaho, Boise Cascade defines thirteen growth stages in forest structure and tracks changes in these through time. These growth stages are integrated with habitat types to define landscape management units. An ecosystem diversity matrix enables projection of what habitat changes can be expected to occur over time.

There are at least two private domain, computer-based, management unit level models available in BC capable of modeling habitat supply. However, the Ministry of Forests has currently no (or at best very limited) capability in this area. Rather than attempting to develop a methodology here, this is an area recommended for further development."[8]

The Ministry of Environment, Lands & Parks and Ministry of Forests are examining and testing several habitat supply models. These models should be used to aid in revising the Incremental Silviculture Strategies for the Pacific Region in the next few years. Models such as these will contribute to sounder decisions related to timber supply management, and overall forest investment.

1.2 GOALS RELATED TO HABITAT/BIODIVERSITY[9]

Land Use Charter – "ensure that present-day decisions do not compromise the ability of future generations to meet their own environmental and economic needs. The Province shall ensure that renewable resources are used in a manner that is sustainable over the long term."

Clayoquot Scientific Panel – "Restoration of historical degradation is a necessary part of a healthy human relationship with the land."

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[8] *Incremental Silviculture Strategy for British Columbia, Background Report : Project Information, List of References*, March 31, 1998, p. 22.

[9] *Incremental Silviculture Strategy for British Columbia, Background Report 3: Government's Goals, Proposed Guiding Principles*, March 31, 1998, p. 2.

All information in black text below is taken from *INCREMENTAL SILVICULTURE STRATEGY REPORT, FOREST DISTRICT X, RMP 1999-2000, September 30, 1998.*

Regional Objectives –
The objectives of the regional incremental silviculture strategy are to:

- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MoF, 1998b)

2.0 CAMPBELL RIVER FOREST DISTRICT

2.1 TSR ANALYSIS ISSUES

Older forests – "CF recognizes that additional requirements for biodiversity constitute a small downward pressure on the initial harvest level projected in the base case."

Visuals – recognize opportunities to use alternate systems to meet visual requirements.

Conversion – TSR analysis recognizes 900 ha of deciduous converted to conifer forest, presumably over a ten-year period.

2.2 STRATEGIES RELATED TO HABITAT/BIODIVERSITY

Strategies are listed by supply block:

Sayward

- report recommends planting 10% alder to speed up green-up and increase site productivity. May be opportunities to manage forage as well.
- CT is being done, along with fertilizing and spacing in prep of CT. May be opportunities to manage forage as well.
- "Create old forest characteristics as early as possible through a regime of spacing / fertilization / CT / fertilization. (This can be achieved in conjunction with other programs and does not require additional activity goals.)" When these activities are not tracked as hectares with specific habitat/biodiversity objectives, prioritization may not reflect the optimum treatment regimes. Need to develop a method for identifying opportunities and track units treated for habitat/biodiveristy objectives separately.
- "Space 50 h/yr [what density?] for [what purpose?]." (Related to spacing for habitat objectives). Obviously need to fill in the blanks!

Kyuquot

- 20% of entire THLB is VQO. May be opportunities to manage forage as well.
- report recommends planting 10% alder to speed up green-up and increase site productivity. May be opportunities to manage forage as well.

Loughborough

- not many opportunities for incremental silviculture owing to rocky sites, poor access.

TSA

- managing voids is an issue. "Voids can be desirable for wildlife habitat. Current free growing requirements will result in <15% in voids, especially in the Sayward, however, amount is unknown."

Note that the Silviculture Regimes and Investment Priorities table has 3 columns for Habitat (OG, Riparian and Wildlife), and indicates the above recommendation of treating 50 ha/yr @ $1600/ha.

3.0 PORT MCNEILL FOREST DISTRICT

No strategies for habitat supply management are discussed in the ISS.

Concern over any trials for draining Cw sites (objective is to change site class from poor to low); need to look at habitat/biodiversity objectives. Very expensive treatment.

3.1 KINGCOME TSA

3.1.1 TSR Issue Analysis - Biodiversity

"Base case does not include a requirement for old growth or biodiversity as there are no specific provisions applied operationally in the TSA."

"Increase: Sensitivity analysis indicates the impacts of biodiversity and riparian requirements could result in a 5.7% decrease in initial harvest levels from the corrected base case. [Sensitivity analysis on the uncorrected base case for the addition of a requirement for at least 10% of stands being older than 140 years indicates that all terms are sensitive. Long term is 5% below base as it forces the harvesting of stands at ages past the point of maximum growth rates.]"

In anticipation of implementation of VILUP, work needs to be done to refine the above projection. Opportunities to speed up OG attributes would be a high priority in some units.

3.1.2 TSR Issue Analysis - Treatment Issues

"Deer browse and Sitka spruce leader weevil are the most significant impediments to regeneration. However, losses are not of sufficient magnitude to cause CF to make an AAC adjustment." Forage plans may help deer management issues.

"Cw/Hw salal sites achieve crown closure (CC) at approximately 7 m, which shades out competing salal. Prior to CC, salal reduces site potential through nutrient competition. Stands show significant response to a regime of fertilization at time of planting, plus 1 or 2 more applications to achieve early CC. 90%+ of Cw sites are planted." Objectives for forage should be considered when managing salal sites, to encourage suitable forage development and delaying CC.

"[Commercial thinning –] None to date. CF expects district staff to analyze potential for CT and, if feasible, to implement a CT strategy. Approx. 17% of forests in the THLB are 30 to 80 years old and may be candidates for commercial thinning. 10 400 ha of H stands 40 -60 years old. Steep terrain and lack of access limits availability." May be opportunities to CT and leave slightly older stands to develop OG characteristics, while still maintaining a certain cut level. CT using alternative harvesting systems may also provide OG characteristics.

3.1.3 Future

Future factors to be considered in determining an incremental silviculture program include:

- further reductions in land base resulting from implementation of the Vancouver Island Land Use Plan;
- the implementation of biodiversity and old growth plans.

3.1.4 Strategies

"Expand the timber harvesting land base through:

(b) draining low site wet lands in the Nawhitti Plateau and Standby area; and

(c) rehabilitating non-commercial alder stands.

5.(b) About 40 000 ha classified as Cw 921 P/L. About 8 000 ha may be treatable at $3 000/ha. Requires 1 m ditches 30 m apart. Would require environmental and public review. **Consider experimental for now, with a 10 ha trial.**

5.(c) Considerable area in alder which is operable but not commercial. Would need to co-ordinate with alder licensee to determine treatable areas. Requires further study - **program not likely to start in next 5 yrs & then would take 15 yrs to complete."**

Both treatments may have habitat/biodiversity issues. Need further studies.

3.1.5 Research Needs

The amount of area in alder stands which are not likely to be commercially harvested and therefore have potential for rehabilitation requires determination.

Alder rehabilitation has habitat/biodiversity consequences. Need further studies before treatments are to be proposed.

4.0 SOUTH ISLAND FOREST DISTRICT

4.1 LICENSEES

"MacMillan Bloedel's [Weyerhaueser] TFL #44 has separated their request by operating division, Franklin, Clayoquot, and Sproat. Franklin did not provide input into the Resource Management Plan, hence, overall funding is unknown. It is anticipated to be in line with the multi year plan of $2,179,439. MB rationale towards investment in incremental silviculture activities for timber volume and value is contained within the approved Management Plan #3 for TFL #44. **Recent internal changes within the company, an increased focus on non-timber values, and the spatial harvesting constraints of the *Forest Practices Code of BC Act (FPC)* have the company reviewing this second growth strategy.** To minimize disruptions a transition period is requested while developing the strategy."

"TimberWest Forest Limited did not provide input into this Resource Management Plan."

4.2 ARROWSMITH TSA

"Harvesting activities were concentrated on the east coast areas in the 1930's-1950's, and within the west coast areas in the 1960's-present. Progressive clearcutting was practiced at the time. With the *Forest Practices Code of BC Act* (FPC) this harvesting history has created challenges for district staff. The east coast is dominated by 40-60 year old Coastal Douglas-fir, and very little old growth. Many of the stands are infected with *Phellinus weirii*, laminated root rot. The west coast areas contain much of the TSA's old growth stands. Under the FPC many of these stands will not be available for harvest for many decades.

The age class balance, by landscape unit, is a major factor in this strategy. West coast stands are limited by adjacency rules and green-up requirements. East coast stands are young, have not reached the culmination of Mean Annual Increment (MAI) and are impacted by laminated root rot. Additionally, 45% of the timber harvesting land base is within a VQO zone and is constrained by more onerous green up requirements.

Younger stands dominated by predominantly good and medium site Douglas-fir are more common in the eastern portions of the TSA, while older stands dominated by predominantly poor-site western red cedar and western hemlock are more common on the west side. This **east/west split of age groups has implications** for distribution of harvest, commercial thinning potential and landscape level biodiversity. Commercial thinning in the eastern portion allows the shifting of part of the harvest that would otherwise all be concentrated in the older stands of the western portion."

4.2.1 Older Forests

"Objectives not yet established. No base case requirement. No sensitivity tests. CF to incorporate in next determination."

4.2.2 Fragmentation

"71 land fragments in eastern portion of TSA. These require more restrictive management regimes." May need special attention for habitat/biodiversity values.

4.2.3 TSR Issues

No plans to convert NCBr.

Commercial Thinning – 350 ha/yr at time of TS analysis. May have some implications to habitat supply/biodiversity.

Pruning – 550 ha/yr at time of TS analysis.
CF acknowledges this may improve value, however clear plans and further modeling is needed in order to project timber supply implications. Consider riparian management zones and old growth areas for long rotation quality management program.

Studies should be conducted on the feasibility of methods, and to examine where treatments should be conducted.

4.2.4 Treatment Targets

Backlog brushing =	100 ha/yr
Spacing – east =	175 ha/yr
Spacing – west =	150 ha/yr

Report estimates 5% of the above should be done for habitat objectives.

There is no text or supporting information regarding where or how the treatments should be carried out. The 5% figure is a start, but it doesn't appear to have any supporting information related to investment opportunities or benefits to habitat supply. Need to look at the entire district/management unit to determine where and how much of each treatment is needed to meet specific objectives.

5.0 CHILLIWACK FOREST DISTRICT

District of Mission Silviculture Strategy not available in electronic form, therefore, no analysis is provided here.

5.1 OVERVIEW

"The Enhanced Forestry Resource Management Plan is expected to form a corner stone for the Fraser TSA Second Growth Management Strategy which is currently being formulated by the Chilliwack Forest District staff. The second growth strategy is being as prepared to guide a smooth and sustainable transition from heavy reliance on old growth forest for harvesting and employment opportunities to one more focus on second growth forests. The second growth strategy is being prepared to set out guiding principles, strategic direction, describes processes that will be accounted for or dove-tailed with higher level plans that are being formulated.

In the management of all forests a full array of resource values must be considered. However, when dealing with immature second growth stands in the Chilliwack Forest District, timber quality, urban interface, visual resources, domestic water use, deer and Northern Spotted Owl habitat, and biodiversity management issues are particularly challenging.

Biodiversity requirements must be met both at the stand level, and at the landscape unit level. To date the early seral stages management requirements (as per the biodiversity guidebook) have yet to be implemented but once they are enabled, this enhanced forestry plan will be adjusted to reflect those standards.

It is also important that where possible, silviculture treatments be used to enhance immature stands to create or improve critical habitat for the Northern Spotted Owl and identified wildlife.

- There are many large contiguous areas of second growth in the district that have resource issues (such as visuals, adjacency green-up and **critical wildlife habitat**) that are spatially and temporally sensitive to rate of harvest. Implementing enhanced forestry activities in these areas can increase stand structure diversity, enhance a forest manager's ability to stager future harvesting activities and minimize adjacency and rate of cut constraints.

- Substantial areas of the Fraser TSA are occupied with older immature "off-site" coniferous tree species. Rehabilitating these stands and reforesting them with more ecologically suitable species (usually removing hemlock from Douglas-fir sites) is essential to restoring site productivity, **critical wildlife habitat** and mitigating localized age class imbalances. Also contributes to biodiversity objectives in a restorative context. MELP generally supports this activity as high priority. Has a link with FRBC Terrestrial Ecosystem Restoration Program.

- Deciduous stands occupy an estimated 10 000 ha of highly productive conifer sites. The Fraser TSR assumes that 75% of these will be converted to coniferous stands over the next five years and failing to do so is expected to lower long run AAC by 100,000 m^3/yr. Unfortunately, it is believed that the majority of these stands are heavily constrained by **environmental and social factors and likely unsuitable for stand conversion**. TSR assumptions are being revised to reflect more realistic targets but it is clear that stand conversion activities must be undertaken immediately to mitigate future AAC reductions and capitalize on current employment prospects." MELP supports studying these areas first, with a look at achieving habitat/biodiversity objectives by accepting the deciduous component. This activity is a likely candidate under FRBC SSFM objective, related to TSR decisions.

5.2 STRATEGIES TO ENSURE ECONOMIC VIABILITY OF THE INDUSTRY

"Second growth timber can have a high component of small dimension forest products and low quality timber unless they are intensively managed or rotation age are lengthened. As a result of this, the economic viability of many second growth stands can be more sensitive to down turns in log and lumber markets. To ensure that harvest levels, employment opportunities and community…

- an approach be developed to deal with the treatment needs of critical wildlife habitat that was previously harvested

With the recent clarification of critical habitat linked to the Northern Spotted Owl and work in defining deer winter range and other critical wildlife habitat, the nature of enhanced forest management is changing. However, although these areas are excellent candidates for enhanced activities earmarked to enhance or create long term wildlife habitat, the absence of "higher level" plans for these areas make them poor candidates for financially based enhanced forestry investments. Fortunately, imminent "higher level" plans should clarify the situation."

"Upon completion of the Northern Spotted Owl Resource Management Plans there may be the opportunity to space 250 ha of age class 1 and 2 stands and fertilize 100 ha of age class 1 to 4 stands, as part of a regime to create spotted owl habitat. However, until the plans are finalized these are will not be the focus of investment related incremental forest management activities because of the uncertainty of future harvest potential."

Discussion with Ian Blackburn, MELP Region 2, Sept 14, 2000, confirmed that the NSORMP has been completed. Therefore, we can proceed with recommending studies to examine these opportunities, and testing of treatment methods using adaptive management principles.

5.3 HABITAT ISSUES

5.3.1 Deer Winter Range

"About 13 000 ha or 5% of THLB. Base case requirement of same area of forest older than 100 years of the same forest type as currently exists within each landscape unit being maintained over time. Sensitivity test of ± 50% of area requirement.
Decrease: (-50%) Insensitive. Short term harvest level is not dependent upon harvesting the max. area allowed within the deer winter range.
Increase: (+50%) Slight sensitivity over the first 3 decades only (about 2% lower), due to the decreased availability of the existing older stands for harvesting early in the harvest forecast."
"*Deer Winter Range*: Base case 18 000 ha always older than 100 yrs. Sensitivity test of ± 100% of area.
Relaxation: (0 ha) Moderately sensitive short term with 5% increase in 1st 3 decades over base case. Insensitive in mid/long term.
Increase: (36 000 ha) Moderately sensitive short term with a decrease of 7% over 1st 3 decades below base case. Slightly sensitive mid/long term."

Need to review the forest types by DWR requirement, and determine opportunities for applying incremental silviculture treatments to immature forests to speed up the development of DWR attributes. More functioning DWR will result in greater flexibility for timber harvesting. Fulfilling habitat supply objectives will contribute to sustainable forest management and certification.

5.3.2 Biodiversity – maintaining deciduous component

- About 10 000 ha of harvestable deciduous types included in the THLB (presumably alder), ¾'s assumed converted to Fdc following harvest. Problems with poor stem form and potential location of these stands in riparian management or reserve zones places some uncertainty over the amount of harvesting that will actually occur in deciduous stands. There has been little, if any, harvesting in deciduous stands under the partitioned AAC.[10] If no harvesting occurs, the starting harvest level must be reduced 2%, with 4% and 6% declines in decades 2 and 3 respectively. Mid and long term levels 4% lower because the conversion from deciduous to higher volume Douglas-fir would not occur."
- About 5 600 ha of non-utilized deciduous stands deducted - presumably cottonwood, aspen and birch.
- **Opportunity to rehabilitate brush areas not addressed in TSR, however there is relatively little area of brush, some of which no doubt contributes to wildlife habitat objectives.**

Need to ensure that deciduous forests are being managed and not scheduled for conversion where they contribute to biodiversity.

5.3.3 Biodiversity – meeting targets

- "The proportion of the THLB under each draft-biodiversity emphasis falls fairly close to the target of 45% low, 45% medium and 10% high biodiversity."
- **"Old seral (old-growth) guidelines were included in the initial harvest forecast. Adding early seral guidelines (30% younger than 40 years), which have been agreed with MELP to be of lesser importance than old, significantly affects short term harvests, causing an almost 40% (unconstrained) drop starting at year 5 and ending at year 20. Adding mature plus old seral requirements (36% older than 80 years) causes a drop of lesser magnitude and which only lasts for a 5 year period. If all seral stage requirements were applied, timber supply plunges 50% starting in year 6, returning to the "initial harvest forecast" level after two decades. These analyses were included in the report for demonstration purposes only. It has been agreed with MoELP that they will not be applied. The mid to long term is not affected by application of the guidelines."**
- Older forests - At all times, there is sufficient old growth to meet FPCode biodiversity guidelines.

Should analyze the situation using current parameters, and see if there are opportunities to manipulate seral development using silvicultural treatments.

5.3.4 Strategies to Increase the *Quantity* and or *Quality* of Future Habitat Supply

Upon completion of the Northern Spotted Owl Resource Management Plans there may be the opportunity to space 250 ha of age class 1 and 2 stands and fertilize 100 ha of age class 1 to 4 stands, as part of a regime to create spotted owl habitat. However, until the plans are finalized these are will not be the focus of investment related incremental forest management activities because of the uncertainty of future harvest potential.

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[10] Source: MoF Chilliwack Forest District. Hereafter noted in the text as (CFD).

General – 99/00 RMP states that "an approach [should] be developed to deal with the treatment needs of critical wildlife habitat that was previously harvested. Need to develop this approach prior to instituting a revised ISS which includes habitat/biodiversity objectives, performance measures and opportunity analyses.

Riparian – There likely exists opportunities to treat a certain amount of area per year. With the increasing interest in forest management certification, and the high profile commanded by activities in this district, an analysis should be conducted. We need to compare the WRP plan with the plan for incremental silviculture treatments and look for specific opportunities to treat RRZs for mutual benefits. Need prescriptions done in 2001/02, recommending 50-100 ha of work to be implemented over the next 3 years, in an adaptive management framework. Initially target the Nomish Creek area.

Old Growth Attributes (general) – recommend an analysis of the distribution of OGMAs and need for OG attributes be conducted, with the purpose of recommending the amount and location of possible areas to treat for enhancing OG attributes (in RRZs, WTPs, etc). Analysis to be completed 2002/03, following work done at provincial level in 2001/02.

Old Growth Attributes (Northern Spotted Owl) – schedule prescriptions for 2001/02, followed by treatments of juvenile spacing (JS) at 250 ha/yr and fertilizing 100 ha/yr. Estimated cost from ISS is JS @ $600/ha and fertilizing @ $200/ha.

Grizzly Bear Forage – might be opportunities to JS, prune for GB forage.

6.0 SQUAMISH DISTRICT

6.1 ISSUE ANALYSIS

For timber supply flow purposes, appr. 47% of THLB is age 0-40 years (43% in age class 1 & 2), and there is a shortage of stands 41-140 years. Appr. 11% of THLB has to meet visual quality objectives. DWR zone is appr. 7% of THLB, and has a requirement for at least 65% old growth. Area affected by spotted owl habitat and the PAS is about 30% of THLB. Appr. 26,000 ha of heli logging opportunities, however, only 13,000 are considered operable in the near future (ie, 130 ha/yr). Implementation of the FPC likely to have a downward effect on timber supplies.

Growth of tourism also adds downward pressure on timber supplies.

6.2 INCREMENTAL SILVICULTURE HISTORY

Timber supply analysis states 1000 ha of deciduous could be converted to conifers over 50 yrs…best stands are in the riparian zone.

6.3 SILVICULTURE OPPORTUNITIES

6.3.1 TSR Analysis

Mid-term 60-70 and long-term 90-100 years, address older forest/habitat/biodiversity constraints.
"the indicated strategies would serve to mitigate their effects [downward pressure] rather than increase timber supply."

6.3.2 Conversion

Alder (1000 ha), leave alone, might be a future market, most stands are in riparian zones. Agree, ensure this is taken into account in TSR.

6.3.3 NSO Habitat

Creating spotted owl habitat increases future flexibility. Owls prefer 2-layered stands of Douglas-fir. Top layer consists of 40-60 large trees/ha; lower layer of smaller trees, fully stocked. Historically, this habitat developed through fire history. About 25% of the TSA is 50% owl habitat, mostly in the transition zone. This is basically an ecosystem management problem, requiring habitat supply modelling. Published estimates state owl strategy will result in only a 10% loss of harvest, but on the ground estimates indicate more like a 30% loss.

A strategy would be to manage some spacing regimes to allow the creation of owl habitat. If 10% of annual area spaced were managed this way would equate to about 100 ha/yr. Future management would consist of partial harvest or CT [commercial thinning] to create two-layered stand condition. At this point is a matter for consideration in SMP's.
Some pruning would be conducive to the development of spotted owl habitat, perhaps to the extent that may then not be able to harvest the pruned trees.
Recommended 50 ha/yr @ $1000/ha, ranked 4 of 7 in regime table; Owl Habitat Enhancement = stocking reduction (post CT), girdling for snag trees, void creation, under-planting to create a multi-layered canopy.

Note the recommended 50 ha/yr owl habitat enhancement was listed in the program table, ie, there was no identified constraint to carrying out this work.

6.3.4 Deer Winter Range

Some stands may be spaced to a lower density to provide deer winter range.
Forage plan and DWR development is needed.
Link to TERP for fire management planning for habitat restoration.

7.0 SUNSHINE COAST DISTRICT

7.1 WEYERHAUESER

"MacMillan Bloedel's (MB's) general objective for Tree Farm Licence management is to maximize the net present value of the prospective stream of earnings from the whole forest (subject to Crown regulations and meeting societal expectations for maintenance of forest values). This is achieved by growing the maximum economic volume at an acceptable cost.

Current silvicultural plans also reflect recent government funding priorities for spacing and pruning. Analysis by MB shows that conventional spacing strategies reduce merchantable stand volumes without improvements in stand values (across a wide range of price assumptions). Further, the economic return from pruning is uncertain considering the high costs of pruning, the long investment period and the reliance on a high premium for clearwood. It is MB's intention over time, to shift its program more to other forest management activities. A transition period is required to minimize disruptions to current agreements and employment opportunities. **Some areas will still be spaced and/or pruned, generally for non-timber benefits."**

7.2 SUNSHINE COAST TSA

Base case does not include a requirement for old growth or biodiversity as there are no specific provisions applied operationally in the TSA. Chief forester acknowledges that additional requirements are likely to present some risk to future timber supplies. In the future, older forest, biodiversity and Forest Practices Code requirements are likely to have significant future impacts on timber supply.

Strategies to Increase the *Quantity* and or *Quality* of Future Habitat Supply

No strategies proposed at this time.

Likely has some opportunities similar to Squamish Forest District.

8.0 MID-COAST FOREST DISTRICT

8.1 STATUS OF LRMP PROCESS

The Central Coast Land and Coastal Resource Management Plan (CCLCRMP) remains one of the most complex planning processes ever undertaken, with the intention of preparing plans for the North portion, South portion, and Coastal Nearshore portions of the Central Coast. The North, South and Coastal tables met in October and November to review and compare the various management "perspectives" that were developed by major sectoral interests over the summer.

These meetings have provided the basis for negotiation of areas temporarily deferred from timber harvesting by forest companies, as well for negotiation of Goal 1 and Goal 2 Protected Areas Strategy candidates proposed by the provincial government team. The intent is to begin to apply to the land base and negotiate the many objectives and strategies that were developed by the participants prior to the summer. Another significant change to the process is that combining participants into "sectors" in order to speed up discussions and negotiations has reduced seats at the tables. At this point, the anticipated completion date for the process is July of 2000. (* Part of the Prince Rupert and Vancouver Island IAMC regions.). (Information taken from LUCO web site).

8.2 RECOMMENDATIONS FROM OTHER STUDIES

"Riparian forests get special attention." (p.viii, *Silvicultural Options in the Central Coast*, Pjar, Rowan, MacKinnon, Coates and LePage, December 1999).

8.3 CENTRAL COAST TSA

8.3.1 Alder Harvest and Habitat Opportunities

Opportunities are limited as stands are generally too remote to economically treat. Situation exacerbated by there being few local contractors.
Conversion of alder stands already incorporated in TS analysis. An interest has been expressed by a hardwood manufacturing company in harvesting alder stands. Because of this the district is not actively rehabilitating alder stands.

There may be opportunities to harvest some of these stands to meet habitat objectives, declaring them free growing (by meeting habitat objectives), then treating them to enhance the habitat/biodiversity values. The high priority for these kinds of treatments would be riparian reserve zones.

There is less treatable area than would appear due to terrain, access and riparian concerns. Likely 200 ha of harvestable stands.

8.3.2 Create OG attributes earlier

No short term impact because there are no treatable stands in this period. Also, due to the abundance of older timber in this period, this cannot be a directly limiting factor in the short term. Complete removal of old growth [constraints] requirement allows the initial harvest level to be maintained for 2 decades (1 more than base case). This is an allowable cut effect related to the age class structure of the TSA, because existing older timber no longer has to be held through the mid term time period until replacement regenerated stands become available. Little present knowledge and experience with creating old-growth attributes earlier through silvicultural practices.

8.3.3 Strategies to Increase the *Quantity* and or *Quality* of Future Habitat Supply

(Note: The following strategy was developed in the district working session during discussion of the regime table. Consequently there is no prior documentation in this report.) The following strategy has identified potential to increase the quality and or quantity of the habitat supply of the Mid Coast TSA. Space 10 ha/yr to improve riparian habitat.

Access and terrain limitations to incremental silviculture activities are noted. These limitations should result in putting more emphasis on meeting habitat/biodiversity and water quality objectives during harvesting and pre-free growing stages of forest development.

Riparian – There likely exists opportunities to treat greater than 10 hectares per year. Owing to the high cost of access, need to compare the WRP plan with the plan for incremental silviculture treatments and look for specific opportunities to treat RRZs. Need prescriptions done in 2001/02, recommend 50 ha per year of prescriptions.

Recommend implementing 10 ha of treatments in 2002/03, and 20 ha each year thereafter.

Old Growth Attributes – recommend an analysis of the distribution of OGMAs and need for OG attributes be conducted, with the purpose of recommending the amount and location of possible areas to treat for enhancing OG attributes (in RRZs, WTPs, etc). Analysis to be completed 2002/03, following work done at provincial level in 2001/02.

Grizzly Bear Forage – may be opportunities to JS, prune for GB forage enhancement. Interfor looked at areas for trials for FG standards in 00/01.

Ungulate Winter Range Enhancement – May be limited by access.

9.0 QUEEN CHARLOTTE ISLANDS FOREST DISTRICT

9.1 STATUS OF LRMP PROCESS

The process has not yet been fully initiated. A technical background land use report for the plan area has been prepared. Discussions continue between the Land Use Coordination Office and the Islands Community Stability Initiative (ICSI) to identify a suitable model for land use planning on the Queen Charlotte Islands. (Information from LUCO web site).

9.2 WEYERHAEUSER CANADA LTD., TFL 39

9.2.1 Issues

"Issues affecting timber supply include: environmental/social land withdrawals and their affect on age class distributions, and pests (both deer and insects)."

No mention of treatments for habitat/biodiversity objectives. Anticipate this has changed substantially.

Yakoun Watershed (Watershed #139): Licensee- Weyerhaeuser TFL39

Assess and provide prescriptions for approximately 46 hectares of riparian area. Rationale: High priority areas recommended for assessment in Yakoun River Level 1 FHAP reports.

Louise Island (WS Unit# 141): Licensee- Weyerhaeuser TFL 39

Implement Riparian Conifer Release (CR), Wildlife Tree Patch (WTP) creation and coarse woody debris management prescriptions for approximately 41 hectares in the Maters Watershed including Fukwa and Clew Creek sub-basins.

Assess and prescribe high priority riparian areas in Skedans River as recommended by the Skedans Level 1 FHAP (Approximately 20 hectares).

Assess and prescribe riparian area for remaining high value fish streams on Louise Island as directed by the Louise Island Overview FHAP (approximately 24 hectares).

9.3 WESTERN FOREST PRODUCTS TFL 24

No mention of treatments for habitat/biodiversity objectives. Anticipate this has changed.

Sewell & Tasu (Watershed Units #s 152 &153): Licensee- Western Forest Products TFL# 25

Develop and implement Stand Management Prescriptions for Tasu and Slim Creeks as recommended in the Tasu Creek phase 1 FHAP report dated 1995 (Approximately 17 hectares).

Develop and implement Stand Management Prescriptions for Thurston Harbour and Talunkwan Creeks as proposed in the Phase 1 FHAP report dated 1995 (approximately 19 hectares).

Note: Talunkwan island is no longer eligible for WRP funding.

Develop and implement Riparian Prescriptions for priority reaches in Flat, Lomgon Sewel Point Watersheds as recommended in the Overview FHAP Report (approximately 24 Hectare).

Develop and implement Riparian Prescriptions for priority reaches in Little Goose, Mosquito (Pallant), Nina, Talwest Creeks and Tributaries to Mosquito Lake as prioritised in the Level 1 FHAP report dated April 1996 (approximately 132 hectares).

9.4 TIMBERWEST FOREST PRODUCTS LTD. TFL 47

TimberWest Forest Products (Sandspit) did not submit a strategy text. This is largely because of the status of the sale of their Sandspit Division. Because the sale is not yet finalized, the Sandspit Division of TimberWest is excluded from the Agreement recently signed between FRBC and the rest of the company. Without an agreement with FRBC, TimberWest Sandspit essentially has no formal Incremental Silviculture Strategy for FRBC funds.

In 1998-99 the Ministry of Forests delivered the FRBC projects for TimberWest in Sandspit. This may also be the case in 1999-2000. However, the proposed work for 1999-2000 and beyond have been included in the Five Year Program Summary (Section E), and in the Schedule of Proposed Treatments (Section F) under TimberWest's name.

Need to ascertain from MoF how TimberWest submission will be handled, ie, as part of TSA or separately.

Deena Creek (WS unit # 149): Licensee JS Jones/ TimberWest TFL#47 Block 18

Implement riparian prescriptions for Lower Deena Creek mainstem and sub-basins (52.9 hectares) that include conifer release, fill/bank planting and wildlife tree patch creation.

9.5 HUSBY FOREST PRODUCTS LTD.

Naden (W.S. unit# 142): Licensee- Husby

Implement SMP prescriptions for 16.2 hectares of riparian area. Prescriptions vary from cluster and fill planting to conifer release.

Riparian and windthrow assessment to produce a prescription to wind proof a riparian buffer on 15k and 19k creeks (sub-basins to the Davidson river part of WS unit# 142). Highly experimental prescription to prevent an existing buffer from blowing down. Recommended as high priority in the Davidson River level 1 FHAP. Could possibly involve spiral pruning, topping etc. A great adaptive management project.

9.6 QUEEN CHARLOTTE ISLANDS TSA

9.6.1 Strategies to Improve the *Quantity* and or *Quality* of Future Habitat Supply

"Rehabilitate 60 ha/yr of riparian habitat through conifer release, spacing and planting".

Program Table - Hectares Treated, Queen Charlotte TSA, July 1998

Year	Surveys	Backlog Brushing	Riparian Rehab	Space	Prune	Layout	Fertilize	Total
1	2,000	90	60	400	150	550	200	3,450
2	2,000	-	60	400	150	550	200	3,360
3	2,000	-	60	400	150	550	200	3,360
4	2,000	-	-	400	150	550	200	3,300
5	2,000	-	-	400	150	550	200	3,300
Subtot Yr 1 - 5	10,000	90	180	2,000	750	2,750	1,000	16,770

Deer browsing of cedar seedlings is a significant problem, creating extraordinary regeneration expense for licensees. (At the district working session, licensees indicated they are pursuing some incremental silviculture funding support on the basis that deer are an introduced species to the Queen Charlottes.)

(Note: The following strategy was developed in the district working session during discussion of the regime table. The discussion was not documented, so is presented here without prior reference.)

The following strategy has identified potential to increase the quality and or quantity of the habitat supply of the Queen Charlotte TSA.

Rehabilitate 60 ha/yr of riparian habitat through conifer release, spacing and planting.

Rennel Sound (WS unit# 145): TSA Lands

Complete conifer release prescriptions for Riley Creek (3 hectares) and implement planting and Wildlife Tree Patch (WTP) creation phases of the prescriptions in Bonanza and Riley Creeks (create 154 WTPs and plant 1.2 hectares).

Assess and prescribe approximately 6 hectares of riparian area for Rock Run Creek as recommended in the Rennel Sound Level 1 FHAP.

Assess and Develop Riparian Prescriptions for reaches 1A,1B,1C,1D and 2A of Bonanza Creek and Reach 1 and of 2 and associated tributaries of Gregory Creek as recommended in the Level 1 FHAP for Bonanza and Gregory Creeks (aprox. 44 hectares).

Note: Rennel Sound is TSA land and will likely not receive Further WRP funding.

Riparian – There likely exists opportunities to treat more riparian than what is presently under prescription or scheduled for prescription. Need to analyze the WRP plan and look for opportunities.

Old Growth Attributes – recommend an analysis of the distribution of OGMAs and need for OG attributes be conducted, with the purpose of recommending the amount and location of possible areas to treat for enhancing OG attributes (in RRZs, WTPs, etc). Analysis to be completed 2002/03, following work done at provincial level in 2001/02.

APPENDIX 5 – COMMUNICATIONS LOG (REGION 2)

APPENDIX 6 – SUMMARY OF PROPOSED ACTIVITIES

APPENDICES

Appendix 1: Management Unit Contact and Support Personnel

Appendix 2: Web address where electronic copies are located

Appendix 3: Forest District Review Comments and or Evaluation Form of TFL Submission

Appendix 4: Communication Logs

Appendix 5: Proposed Studies List and or Supporting Information (Forms)

Appendix 6: Sustainable Harvest Program/Activity Tables

- 6.1 Regional Summaries - Management Unit priorities and hectares/dollars for 2001 by agency and district
- 6.2 Regional Totals Summary Tables and performance measures (TFLs/TSAs combined)…Also under 1.4.1 of RMP document
- 6.3 District Totals Summary Tables (TFLs/TSAs combined)
- 6.4 Management Unit Program/Activity Summary Tables and Sustainable Harvest Text by District

Appendix 7: Woodlots

APPENDIX 1

MANAGEMENT UNIT CONTACT AND SUPPORT PERSONNEL

FOR

THE SUSTAINABLE HARVEST COMPONENT OF THE 2001 RMP

Appendix 1

Management Unit Contact and Support Personnel for SH

Management Unit	Agency	Contact
Region - All	MoF – Vancouver Forest Region	Larry Sigurdson
Region - All	MoF – Vancouver Forest Region	Bill Luscombe
Branch - All	MELP – Branch	Colene Wood
Pacific Region- All	FRBC- Campbell River	Jim Davis
Fraser TSA	MoF – Chilliwack Forest District	Craig Wickland
Soo TSA	MoF – Squamish Forest District	Brian Broznitsky
Sunshine Coast TSA	MoF – Sunshine Coast Forest District	Mark Scott
Arrowsmith TSA	MoF - South Island Forest District	Norm Nelleweg/Dean Stewart
Strathcona TSA	MoF - Campbell River Forest District	John Ingram
Kingcome TSA	MoF – Port McNeill Forest District	Sheldon Martel/Glenn Smith
Mid Coast TSA	MoF Mid Coast Forest District	Doug Grant
Queen Charlotte Isl TSA	Queen Charlotte Isl Forest District	Mark Salzl
TFLs 6, 19, 25	Western Forest Products	Ken Hall
TFLs 10, 38, 45, 47, 54	International Forest Products	Ian Robertson
TFL 26	District of Mission	Kim Allen
TFL37	Canadian Forest Products	Dave Harrison
TFLs 39, 44, 57	Weyerhaeuser	Diane Medves
TFLs 46, 47	Timber West	Jack Turley

APPENDIX 2

WEB ADDRESS WHERE ELECTRONIC COPIES ARE LOCATED

APPENDIX 3

FOREST DISTRICT REVIEW COMMENTS AND OR EVALUATION FORM OF TFL SUBMISSION

DCK TFL 26
Quality Rating of TFL Sustainable Harvest RMP

category	yes	partly	no	Rating (H, M, L)
Submitted by August 18	yes			
Basic data for TFL provided, area, AAC, current harvest forecast, site/age class species profile,	yes			
History of past treatments provided	yes			
Identified TSR issues	yes			
Opportunities to increase timber supply addressed in text, e.g. short/mid/long-term, timber flow benefits. Refer to SH Guidelines Attachment 1		partly		
Opportunities to increase timber value addressed in text, if none so stated. Refer to SH Guidelines Attachment 1	yes			
Opportunities to increase habitat supply/biodiversity addressed in text, if none so stated. Refer to SH Guidelines Attachment 1			no	None stated
Working targets proposed for volume/value/habitat		partly		
Satisfactory treatment regime table provided	yes			Same as 1998
Satisfactory rationale provided for the priority ranking of activities i.e. link to MP ,TSR, other	yes			
Where habitat supply/biodiversity activity indicated, rationale on why the silviculture treatment specifically maintains the non-timber values			no	
All summary tables submitted satisfactorily	yes			
Projected job outcome of proposed program stated	yes			
Opportunities to achieve FRBC performance goals Is program within reasonable range of historic funding levels (i.e. +/-25%) State % of both last year and historic levels under the Y, partly, or no column as applicable	yes			
Performance measures,…where TFL used local factors supporting rationale provided	yes			
SH study/research form completed satisfactorily				NA
Communication log documents partnership group and stakeholder discussions and issues			no	
Other (describe)				
Overall rating	n/a	n/a	n/a	

From: Dunn, Scott C FOR:EX
Sent: Tuesday, August 29, 2000 11:13 AM
To: 'MWatkinson@westernforest.com'
Subject: RMP TFL 19 and FL A19231-FRBC

I have reviewed the package submitted to L.Titus regarding FRBC RMP's. I have the following comments regarding the following sections of the document:

- **The instruction package indicates that a rationale is required that links the proposed activities to the TFL management plan objectives from the latest TSR. As there are no incremental objectives in MP#8 a copy of the proposed objectives for MP#9 should be included for review.**

- **Regime Tables are required for all TFL submissions.**
    - **Incremental activities for the TFL will not be approved without a linkage to the TFL Management Plan.**

Comments on Information drawn from TFL 19 MP#8

Juvenile Spacing

- Stand density determination should be based on the potential for commercial thinning. Where commercial thinning potential is based on proximity to a primary access corridor or processing facility. Therefore stands that are on main-lines or branch roads have a high likelihood of being thinned where as side valley's do not.
    - Stands that have a lower likelihood of thinning should have densities that reflect a single entry and set-up for final harvest. (i.e. Fdc leading ~700sph, Hw leading ~ 1000sph)
    - Stands in close to primary access corridors should be set up for a second entry thinning. (i.e. Fdc leading ~ 1000sph, Hw ~ 1200sph.) Caution should be taken when deciding on stand densities as high densities without a thinning will lead to earlier crown closure and culmination of the stand.

Fertilization

- Fertilization is not applicable on stands that do not have at least 50% FDC as the crop trees or 40% and greater than 1m taller than the surrounding stand.
- Hw/CW sites are not considered for incremental investment and are not a priority for fertilization.
- Spaced and or pruned stands are considered a priority for fertilization
- Second growth Fdc stands that are ~ 10 years from harvest are considered the highest priority stand for fertilization investments.
- Stands that require green-up for adjacent harvest can not be considered for silvicultural investment. Green-up is a basic stand management function and does not fit within the enhanced framework.
- Hand fertilization must be considered in context of reasonable application costs. There is no "wasted" fertilizer from other application techniques. In general hand fertilization is considered to be very expensive and normally does not occur.

- The historical incremental section should include activity from 1999.

I can not process the package until the above issues are addressed.

Your immediate attention is requested.

Scott C. Dunn RPF
286-9392

Subject: RMP's TFL's Campbell River District
Comments:

1) TFL 25: Generally supportive of the RMP, although I don't believe an "adequate" case was made for any intensive silvicultural investment in pruning or spacing. Both of these activities are at fairly low levels in Blk 2 and 3 (spacing 52.5 ha/yr, pruning 38 ha./yr.)Pruning was not part of Mgmt. Plan #9 in either cutblock. Spacing was included in MWP#9, but there was no indication that it would improve timber flow in the RMP. Approval of spacing should be restricted to good sites. Approval of pruning should be subject to submission of an economic analsis showing positive NPV, and a comparison to other options such as denser stocking, late spacing and longer rotations.

2) TFL 45: The proposed activity levels overemphasize lower priority pruning programs. This is contrary to the ISS, which rates pruning as the lowest priority, and does not provide log quality objectives. The district does not support pruning initiatives without an economic analysis showing positive NPV. The district also questions why pruning levels are higher then spacing, since these activities go "hand in hand". A possible answer is that the pruning includes two lifts. This should be stated. Hand fertilization of pruned trees is not supported. Fertilization should be by aerial methods where the cost per kg. is much lower. It is suggested that pruning all stems in the dominant/codominant crown position be applied, and that pruning by hand be restricted to only those stands which are being set up for commercial thinning.Since there has not been any CT in the past, and no assurances that it will be done in the future, hand fertilization is not supported. If CT is committed to, then, pruning and hand fertilization would be restricted to those trees that are not being removed at the first commercial entry (about 350-400 /ha.). The District supports the proposed fertilization program.Pruning funds should be transferred to spacing.

3) TFL 39: Generally, the district supports the activity levels in the RMP. It would appear however that the licensee may have mixed such projects as riparian restoration/spacing and old growth recruitment, in with enhanced silviculture in the activity table. These should have been put under "habitat supply and biodiversity enhancement". Since we are not aware as to what goals belong in this category, we cannot give full support to plan. We would be concerned if a significant portion of the total dollars were siphoned off from intensive silviculture investments without a more thorough review of the implications. The text in the RMP meets the June 30 Regional Guidelines, but is missing most of the supporting information (timber supply issues, non timber issues).

4) TFL 47: The district is supportive of the RMP.The only exception is the manual application of fertilization. This is a small component of the fertilization program (20 ha.). Manual fertilization should not occur where aerial is a suitable treatment, since the cost per kg. applied is much lower. Basic fertilization of regenerated stands where crown closure is less then 20%, is an appraisal cost. Hand fertilization may be considered to retain crown position of pruned trees where CT is scheduled.

John Ingram, RPF
Zone Forester
Campbell River Forest District
Phone: 286-9395, Fax: 286-9490
john.ingram@gems1.gov.bc.ca

District Review of TFL SH Submissions

Port McNeill District's Review of TFL submissions is included in the text section of their sustainable harvest document

District comments on TFL 38 RMP

the level of activities listed in the backlog program seems low - I would expect more.

- 40 has of site restoration and rehabilitation work also has to be questioned as to what kind of work this is and whether it has been included in their M&W plan. As well the cost per hectare for rehabilitation seems too high.

- the enhanced forestry program goals also seem to be low in comparison to what opportunities the licensees has. Also many of the costs anticipated seem high.

- the 10 has of riparian treatment does follow their current plan but may fit with plan 8 which is just being prepared. The $3000 ha also seems high.

The overall program that Weyco is proposing seems small in comparison to their allocated multi year dollars for this district. Some of their projects may also not meet their M&W plan and may not be of the highest priority.Most of the basic and enhanced treatments seem acceptable other than what I have noted above. I would like to propose that if funds are not being fully allocated, or used on high priority treatments, that we use some of this funding for the high priority treatments in the TSA that are not being funded!

Quality Rating of TFL Sustainable Harvest RMP

category	yes	partly	no	Rating (H, M, L)
Submitted by August 18		X		L
Basic data for TFL provided, area, AAC, current harvest forecast, site/age class species profile,			X	L
History of past treatments provided	X			H
Identified TSR issues			X	L
Opportunities to increase timber supply addressed in text, e.g. short/mid/long-term, timber flow benefits. Refer to SH Guidelines Attachment 1			X	L
Opportunities to increase timber value addressed in text, if none so stated. Refer to SH Guidelines Attachment 1			X	L
Opportunities to increase habitat supply/biodiversity addressed in text, if none so stated. Refer to SH Guidelines Attachment 1		X		M
Working targets proposed for volume/value/habitat			X	L
Satisfactory treatment regime table provided		X		M
Satisfactory rationale provided for the priority ranking of activities i.e. link to MP ,TSR, other			X	L
Where habitat supply/biodiversity activity indicated, rationale on why the silviculture treatment specifically maintains the non-timber values			X	L
All summary tables submitted satisfactorily	X			H
Projected job outcome of proposed program stated		X		M
Opportunities to achieve FRBC performance goals Is program within reasonable range of historic funding levels (i.e. +/-25%) State % of both last year and historic levels under the Y, partly, or no column as applicable		X		Reduced program from last year.
Performance measures,…where TFL used local factors supporting rationale provided			X	L
SH study/research form completed satisfactorily			X	L
Communication log documents partnership group and stakeholder discussions and issues			X	L
Other (describe)				
Overall rating	n/a	n/a	n/a	L

Quality Rating of TFL 25 Sustainable Harvest RMP

category	yes	partly	no	Rating (H, M, L)
Submitted by August 18			X	Mod (Aug22)
Basic data for TFL provided, area, AAC, current harvest forecast, site/age class species profile,	X			High
History of past treatments provided			X	Low
Identified TSR issues	X			High
Opportunities to increase timber supply addressed in text, e.g. short/mid/long-term, timber flow benefits. Refer to SH Guidelines Attachment 1		X		Low
Opportunities to increase timber value addressed in text, if none so stated. Refer to SH Guidelines Attachment 1		X		Low
Opportunities to increase habitat supply/biodiversity addressed in text, if none so stated. Refer to SH Guidelines Attachment 1		X		Low
Working targets proposed for volume/value/habitat			X	Low
Satisfactory treatment regime table provided			X	Low
Satisfactory rationale provided for the priority ranking of activities i.e. link to MP ,TSR, other			X	Low
Where habitat supply/biodiversity activity indicated, rationale on why the silviculture treatment specifically maintains the non-timber values				N/A
All summary tables submitted satisfactorily	X			High
Projected job outcome of proposed program stated			X	Low
Opportunities to achieve FRBC performance goals Is program within reasonable range of historic funding levels (i.e. +/-25%) State % of both last year and historic levels under the Y, partly, or no column as applicable			X	Low
Performance measures,…where TFL used local factors supporting rationale provided				N/A
SH study/research form completed satisfactorily				N/A
Communication log documents partnership group and stakeholder discussions and issues			X	Poor
Other (describe)				
Overall rating	n/a	n/a	n/a	

- Silviculture History was to be forwarded at a later date but as of September 5th it has not been received.

Quality Rating of TFL 44 Sustainable Harvest RMP

category	yes	partly	no	Rating (H, M, L)
Submitted by August 18		X		Low
Basic data for TFL provided, area, AAC, current harvest forecast, site/age class species profile,			X	Low
History of past treatments provided			X	Low
Identified TSR issues			X	Low
Opportunities to increase timber supply addressed in text, e.g. short/mid/long-term, timber flow benefits. Refer to SH Guidelines Attachment 1			X	Low
Opportunities to increase timber value addressed in text, if none so stated. Refer to SH Guidelines Attachment 1			X	Low
Opportunities to increase habitat supply/biodiversity addressed in text, if none so stated. Refer to SH Guidelines Attachment 1			X	Low
Working targets proposed for volume/value/habitat			X	Low
Satisfactory treatment regime table provided			X	Low
Satisfactory rationale provided for the priority ranking of activities i.e. link to MP ,TSR, other			X	Low
Where habitat supply/biodiversity activity indicated, rationale on why the silviculture treatment specifically maintains the non-timber values				N/A for 2001-2002
All summary tables submitted satisfactorily		X		Medium
Projected job outcome of proposed program stated			X	Low
Opportunities to achieve FRBC performance goals Is program within reasonable range of historic funding levels (i.e. +/-25%) State % of both last year and historic levels under the Y, partly, or no column as applicable				Low
Performance measures,…where TFL used local factors supporting rationale provided			X	Low
SH study/research form completed satisfactorily			X	Low
Communication log documents partnership group and stakeholder discussions and issues			X	Low
Other (describe)				
Overall rating	n/a	n/a	n/a	

Comments

Submitted by August 18th:

The district did receive the RMP tables for TFL 44 by the deadline but we did not receive any supporting documentation. After an initial request for a write up the district was provided with what seems like an internal communication rationalising why the numbers in the table were used. It did not follow the format indicated in the instructions and left out much of the required rational and supporting data.

Basic Data:

Not provided. In a conversation with Weyerhaeuser staff they understood that this data was not required as it was in the Management Working Plan. No incremental Silviculture Plan was available for the TFL. Should be completed by the end of 2000.

TSR Issues:

No reference to the TSR was made in the write up provided.

Opportunities to Increase Timber Supply:

No mention of timber supply provided in the write-up.

Opportunities to Increase Habitat Supply:

Brief mention of habitat supply but none planned for 2001-2002. Very little discussion of methods and potential benefits or how it could impact harvest level over any term.

Working Target:

No mention of working targets.

Treatment regime table:

No treatment regime table provided. It was felt that the information in the RMP tables was sufficient.

Habitat Supply and Bio-diversity:

None planned for fiscal 2001-2002. There is some shown for later years in the plan but no rational provided.

Summary Tables:

The basic tables were provided but no regime table or silviculture history was provided.

Job Outcomes:

No mention of job outcomes in the write-up provided.

Opportunities to Achieve FRBC Performance Goals:

No mention of performance goals and opportunities provided.

Performance Measures:

No rational provided for local performance measures.

SH Study:

Not submitted

Communications Log:

Not submitted

COMMENTS FOR RMP 2001/2002 AND ON FOR TFL 44 – ALBERNI (REVISED)

Prepared by: Cees van Oosten

Reference: Meetings with West Island Timberlands personnel on 12 July (Paul Dagg - Sproat), 24 July (Steve Hermant - Franklin), 27 July (Sproat and Franklin forestry staff meeting with Diane, Derek and Cees), 11 August (Final meeting with Ray Bartram, Erin Badesso, Steve Hermant and Rick Player). Discussions (phone) with Jim Hunt and Derek Ferguson on August 11.

Dated: August 14, 2000
Revised: August 18, 2000

BACKLOG ACTIVITIES

- **BACKLOG REFORESTATION**

Surveys - 2,500 hectares for 2001/2002

The level of 2000 hectares of backlog surveys should be sufficient for overall planning; however, an additional 500 hectares is planned to review treatment effects of manual brushing. This is something that comes up from time to time, but never gets proper attention at planning time. An increasing portion of the 2000 hectares will be spent on stocking surveys to plan the Backlog Planting projects. The initial efforts will be spent at Sproat, where we know of Crown land not being stocked with acceptable species. In case we need to treat off-site species (e.g. slash balsam where it will interfere with crop trees), I have allowed for some of this under Site prep, starting in 2002/2003. This could also involve creating plantable spots using mechanical methods. No dollars are planned for this in 2001/2002, since we have not identified these treatment needs at this time. Usually Backlog surveys will also identify suitable White Pine pruning projects (Enhanced activities - see Forest Health Enhancement).

Note that the unit cost for Backlog surveys is $ 25.00 per hectare. This includes plot taking, maps and comments, but does not include prescription development and planning.

Site Prep - N0 hectares scheduled for 2001/2002

I built in an allowance for 50 hectares per year from 2002-2004 and 25 hectares per year from 2004-2006 of site prep for the Backlog planting project. I anticipate some work is needed to e.g. slash advanced balsam or to create plantable spots.

Planting - 200 hectares for 2001/2002

Listed as a **priority 2**. This follows the June 30, 2000 guidelines. Since these areas are not listed under Legal Obligations, there is no way to list them as priority 1 (which they are in my opinion).

Planting 200 hectares or 180,000 trees in the summer/fall. This number is manageable, yet substantial. The challenge is to combine enough logical areas to make it 200 hectares total. The planting will probably be concentrated at SLD for the fall of 2001. Steve Hermant identified a potential for planting roadsides at FRD for future years, or possibly a pilot project in 2001, with a view of increasing this in 2002.

Costs: Contractor @ $ 0.95/tree
Fertilizer application @ 0.10/tree

Fertilizer costs @ 0.10/tree
415B/410 @ 0.27/tree
Seed @ 0.059/tree (Fir, Pw)
Seed @ 0.023/tree (Hw)
Seed @ 0.109/tree (Cy)
900 trees/ha
Stock coordinator costs $ 2,500 for the project
Estimated total cost per ha: **$ 1,350/ha**

Brushing - 300 hectares planned for 2001/2002

Brushing levels are dropping off form previous years. For 2001/2002 I estimate 300 hectares for treatment (compared with a planned level for 00/01of 431 hectares for the Albernis). For Franklin we are seeing the end. There are still opportunities at Sproat, especially chemical brushing of maple. I will leave the contract unit costs at $ 1,200/ha. Future hectares include provision to re-treat areas found to have failed. These areas will probably be identified in the additional survey (500 ha) planned for 2001/2002.

Note that: All unit costs include a 10% charge to the contract unit cost to cover checkers' and coordinators' costs. This charge is reported as part of the unit cost.

Funds for prescriptions and planning (which includes layout) are calculated at 8% of the "contract" project costs (not including survey costs), or $ 50,400 (this is 8% of the planting & brushing unit cost for a contract, which is $ 1,350/ha and $ 1,200/ha respectively, e.g. 8% x $1,350 x 200 hectares plus 8% x $1,200 x 300 hectares).

- **IMPEDED AREAS**

Surveys - 1,100 hectares planned for 2001/2002

These surveys will survey damage caused by the heavy snowfall during the winter 1999/2000. This project is in response to questions asked by the divisions. I anticipate doing a helicopter survey, followed by about 100 hectares of ground truthing. This will be repeated in 2002/2003, if borne out in the next planning year.

Note that the unit cost for Backlog surveys is $ 25.00 per hectare. This includes plot taking, maps and comments, but does not include prescription development and planning.

Brushing - NO hectares planned for 2001/2002

Brushing is a catchall category for below-mentioned project.
Provision is made (starting in 2002/2003) to address snow-related problems, if found in 2001/2002 during the surveys.

Funds for prescriptions and planning are estimated at approximately 8% of expected contract costs of $ 60,000 (in 2002/2003), e.g. 8% x $ 1,200 x 50 hectares = $ 4,800.

- **SITE RESTORATION**

Rehabilitation – 100 hectares planned for 2001/2002

Surveys for this project are covered under Enhanced Forestry Activities.

We increased the hectares for this project from 50 to 100 hectares to balance the spread of partnership work, otherwise the plan would have been too thin in the Ditidaht and Huu-Ay-Aht territories.

This project covers "hydro-riparian spacing" in the riparian reserve zones of selected creeks and river systems. This project requires a substantial investment in time training crews in the safe execution of the Stand management Prescriptions. The planned level of activity follows the 10 hectares of this spacing scheduled for the fall of 2000 along the Taylor River. ~~The 2001/2002 plan gradually increases the activity to 50 hectares.~~ The costs are based on initial lower productivities. The tentative plan is to continue this work with the Uchucklesaht on 40 ha. They already received training in 1999, 2000. I anticipate getting two (or three) other ~~another~~ FN contractors involved on ~~10 ha~~ the remainder. The hope is that the FN can get their amalgamated crew going this year. This would take off pressure to spread work geographically to fit each of the partners.

The hectares for 2002/2003 were also changed from 75 to 100 hectares.

Note that: All unit costs include a 10% charge to the contract unit cost to cover checkers' and coordinators' costs. This charge is reported as part of the unit cost.

Funds for surveys are included under Enhanced Forestry Activities. Funds for prescriptions and planning (which includes layout) are calculated at 10% of the "contract" project costs (not including survey costs), or $ 26,000 (this is 10% of the Rehabilitation costs for a contract, which is $ 2,600/ha, e.g. 10% x $2,600 x 100 hectares). These projects require additional resources on SMP development and planning, hence the charge of 10%, which is the "Enhanced" rate.

ENHANCED ACTIVITIES

- **STAND TENDING**

Surveys - 4,000 hectares planned for 2001/2002

The plan includes 3,500 hectares of surveys, primarily to assess aerial fertilization blocks. Generally the survey levels increase with an increase of fertilization activities and a provision for spacing and pruning surveys.

Note that the unit cost for Enhanced surveys is $ 27.50 per hectare. This includes plot taking, maps and comments, but does not include prescription development and planning.

The survey budget includes funds for hydro-riparian surveys on 500 hectares. As a treatment, this project is listed under Backlog: Site Restoration. Surveys also include non-riparian treatments, such as creation of spring forage near deer winter ranges, which will start in 2002/2003 and creation of old-growth attributes in carefully selected areas, which is scheduled to start in 2003/2004.

Spacing - NO hectares planned for 2001/2002

Provisions are included in the plan to carry out some spacing starting in 2003/2004.

Pruning - NO hectares planned for 2001/2002

Provisions are made to carry out second lift pruning on stands pruned in the period 1998-2000 where the first lift was at 2.5 m.

Fertilization - 1,000 planned for 2001/2002

We have an opportunity to carry out an aggressive program of aerial fertilization of Fir stands and, to a lesser degree, Cw-salal type stands (SCHIRP type project areas). The plan for 2001/2002 will concentrate on Fir fertilization; Cw-salal areas can be addressed in 2002/2003. At the meeting of 11 August, the foresters identified a need to also address non-performing Fir plantations in the View Lake area, where carefully prescribed fertilization might kick-start these areas. A tentative area was identified that requires a review and prescription. Since this is a pre-87 opening, it could be done with FRBC funding. A careful review is required as part of the prescription phase. I expect this type of fertilization to start in 2002/2003.

The unit cost for the fertilization is $ 400/ha (aerial application). This allows for the general increase in urea costs, but would also allow for the application of "non-traditional" mixes (e.g. SCHIRP), based on Weyerhaeuser-recommended practices. I anticipate carrying out a GIS-based analysis in 2001/2002 to better delineate candidate stands for Fir fertilization. Since the return on investment is so favourable, compared with other activities, spending $ 10,000 on a study seems justifiable. These funds are included in the Studies budget.

Note that: All unit costs include a 10% charge to the contract unit cost to cover checkers' and coordinators' costs. This charge is reported as part of the unit cost.

Funds for prescriptions and planning (which includes layout) are calculated at 10% of the "contract" project costs (not including survey costs), or $ 40,000 (this is 10% of the contract costs for Fertilization, which is $ 400/ha, e.g. 10% x $400 x 1000 hectares). Enhanced projects require additional resources for SMP development and planning, hence the charge of 10%, which is the "Enhanced" rate.
I have included an additional $ 10,000 to cover prescription and planning costs for Forest Health Enhancement and Habitat Supply and Biodiversity Enhancement, for which there are no prescription and planning cost entries on the Enhanced Forestry Table.

- **FOREST HEALTH ENHANCEMENT**

Pruning - 50 hectares planned for 2001/2002

There are excellent opportunities to prune White Pine in managing the Blister rust. Candidate stands (portions of stands) are continually identified in especially Backlog surveys. Candidate areas are usually poorly stocked, nutrient and moisture stressed areas, where the White Pine component can contribute to the overall stocking levels of crop trees. In the long run, this project needs to be carried on when planting of White Pine is contemplated on some typical Backlog planting areas.

Survey needs for 2001/2002 are covered under Backlog surveys.

Note that: All unit costs include a 10% charge to the contract unit cost to cover checkers' and coordinators' costs. This charge is reported as part of the unit cost.

There is no room on the Enhanced Forestry Table for prescription and planning costs - see Stand tending planning and prescription costs. I have planned an additional $ 10,000 to cover these costs for Forest Health Enhancement and Habitat Supply and Biodiversity Enhancement.

- **HABITAT SUPPLY AND BIODIVERSITY ENHANCEMENT**

Non-riparian treatment - NO hectares planned for 2001/2002

This category has treatment hectares identified starting in 2002/2003 for spring forage production treatments (spacing) @ 50 hectares. This level continues in 2003/2004 and increases to 100 hectares for each of the last two years. This project was also identified as a potential benefit at Sproat, where spring forage issues impact harvest planning. In a discussion with Derek on August 18, we agreed to include funds ($ 25,000) for a study in 2001/2002, similar to that just completed for the hydro-riparian spacing project.

Starting in 2003/2004, 100 hectares of "spacing to promote old growth attributes" is planned. This is a high priority project identified by Ray Bartram. This level increases to 200 hectares in each of the last two planning years. In a discussion with Derek on August 11, we agreed to include funds ($ 25,000) for a study in 2001/2002, similar to that just completed for the hydro-riparian spacing project. This study is needed to provide a cost/benefit rationale for this type of old growth creation project. Ray is of the opinion that this project is critical to being able to operate in the Xm areas. This project is similar to Objective 4 on the Type II Silviculture Analysis for TFL 39 Management Plan Timber Supply analysis.

There is no room on the Enhanced Forestry Table for prescription and planning costs - see Stand tending planning and prescription costs. I have planned an additional $ 10,000 to cover these costs for Forest Health Enhancement and Habitat Supply and Biodiversity Enhancement.

- **STUDIES FUNDING**

A total of $ 60,000 is planned for:

1. A study that identifies overall opportunities to promote old growth attributes through various treatments and that also addresses the cost/benefit rational for these type of projects in TFL 44. This study is required in 2001/2002 in order to initiate a project in 2003/2004. The total cost is set at $ 25,000.
2. A GIS-based survey and analysis of suitable aerial fertilization candidate stands (Fir) on Crown lands at Sproat and Franklin. The cost is set at $ 10,000.
3. A study that identifies overall opportunities to promote spring forage through various treatments and that also addresses the cost/benefit rational for these type of projects in TFL 44. This study is required in 2001/2002 in order to initiate a project in 2003/2004. The total cost is set at $ 25,000.

INPUT PERFORMANCE MEASURES

~~The RMP spreadsheet with the input tables also has an "Input Performance Measure" table, in which the licensee can alter values to replace the default values from the MOF. At the July 27 meeting I had asked Diane Medves which values we should be using. She was going to provide us with a table to use. However, I have yet to receive these values from her. Instead she sent us a list of regimes used by North Island for TFL 39. I discussed this with Derek last Friday and he commented that we would worry about these later.~~

I entered the following value on the Input Performance Measures table:

TFL 44: 1,000 hectares as free growing.

Comments

Submitted by August 18th:

The district did receive the RMP tables for TFL 44 by the deadline but we did not receive any supporting documentation. After an initial request for a write up the district was provided with what seems like an internal communication rationalising why the numbers in the table were used. It did not follow the format indicated in the instructions and left out much of the required rational and supporting data.

Basic Data:

Not provided. In a conversation with Weyerhaeuser staff they understood that this data was not required as it was in the Management Working Plan. No incremental Silviculture Plan was available for the TFL. Should be completed by the end of 2000.

TSR Issues:

No reference to the TSR was made in the write up provided.

Opportunities to Increase Timber Supply:

No mention of timber supply provided in the write-up.

Opportunities to Increase Habitat Supply:

Brief mention of habitat supply but none planned for 2001-2002. Very little discussion of methods and potential benefits or how it could impact harvest level over any term.

Working Target:

No mention of working targets.

Treatment regime table:

No treatment regime table provided. It was felt that the information in the RMP tables was sufficient.

Habitat Supply and Bio-diversity:

None planned for fiscal 2001-2002. There is some shown for later years in the plan but no rational provided.

Summary Tables:

The basic tables were provided but no regime table or silviculture history was provided.

Job Outcomes:

No mention of job outcomes in the write-up provided.

Opportunities to Achieve FRBC Performance Goals:

No mention of performance goals and opportunities provided.

Performance Measures:

No rational provided for local performance measures.

SH Study:

Not submitted

Communications Log:

Not submitted

Quality Rating of TFL 46 Sustainable Harvest RMP

category	yes	partly	no	Rating (H, M, L)
Submitted by August 18	X			High
Basic data for TFL provided, area, AAC, current harvest forecast, site/age class species profile,	X			High
History of past treatments provided	X			High
Identified TSR issues			X	Low
Opportunities to increase timber supply addressed in text, e.g. short/mid/long-term, timber flow benefits. Refer to SH Guidelines Attachment 1		X		Moderate
Opportunities to increase timber value addressed in text, if none so stated. Refer to SH Guidelines Attachment 1			X	Low
Opportunities to increase habitat supply/biodiversity addressed in text, if none so stated. Refer to SH Guidelines Attachment 1			X	Low
Working targets proposed for volume/value/habitat			X	Low
Satisfactory treatment regime table provided	X			High
Satisfactory rationale provided for the priority ranking of activities i.e. link to MP ,TSR, other		X		Moderate
Where habitat supply/biodiversity activity indicated, rationale on why the silviculture treatment specifically maintains the non-timber values				N/A
All summary tables submitted satisfactorily	X			High
Projected job outcome of proposed program stated			X	Low
Opportunities to achieve FRBC performance goals Is program within reasonable range of historic funding levels (i.e. +/-25%) State % of both last year and historic levels under the Y, partly, or no column as applicable			X	Low
Performance measures,…where TFL used local factors supporting rationale provided				N/A
SH study/research form completed satisfactorily	X			High
Communication log documents partnership group and stakeholder discussions and issues	X			Poor
Other (describe)				
Overall rating	n/a	n/a	n/a	

- Very little Habitat Supply has been proposed in the plan.
- Communications log only confirmed that no consultations with stake holders had taken place. No discussion in the text to indicate any other meeting or consultation took place.

Strathcona TSA Issues and Strategy Comments

Sustainable Harvest Component of the Campbell River Forest District 2001/2002 RMP

1.3 Overview of Sustainable Harvest Issues for the District

a) Strathcona TSA

The January 1,2000 Rationale for AAC Determination in the Strathcona TSA, reduced the cut by 10% to 1.278 million m3. The base case harvest forecast predicts a decline to a long run sustained yield of 1.07million m3

Historic levels of incremental silviculture treatment in the TSA have focused on timber flow , piece size, and volume increment. Past investments, especially spacing, have often led to reduced volumes in regenerated stands. In addition, levels of treatment have shown a continued decline since intensive silviculture programs first began 25 years ago. Historic averages have shown that fertilizing and spacing have averaged 1000 ha.each per year, while pruning averaged 100 ha. per year. Recent levels under FRBC have decreased significantly.

As a result of reduced silviculture investment dollars, demand shifting away from large piece sizes, and a declining AAC, a dramatic rethinking of regimes and priorities is required in the TSA. As part of this process, the TSA will focus more heavily on using intensive silviculture funds to increase volume.This means more fertilization, less spacing, and very little pruning. In addition, basic silviculture will emphasize full stocking, and increased stocking levels that do not unduly impact piece size.Silviculture investments will be concentrated in areas where there is ready access to processing facilities (Sayward TSB), and the expectations that come with commercial thinning and multiple fertilization regimes. Outlying areas, where stands are predominantly Hw, will utilize extensive regimes that focus on maximizing volumes. Consideration will be given to habitat objectives or local issues, however intensive silviculture in the Kyuquot and Loughborough TSB's, will be primarily directed at the fertilization of older immature Fdc stands, or where recent investments in stocking control have occured.

The following provides a summary of how the stategy will be implemented:

1) Fertilization levels will increase, and focus primarily on older immature Fdc stands throughout the TSA. This program will be directed at medium sites, where cost effective projects can be established. Younger spaced stands will be included when they are located in the vicinity. Fertilization is the highest priority.

2) Spacing levels will decrease, and focus almost exclusively on areas where intensive regimes are appropriate. These regimes will include commercial thinning and multiple fertilization, and be primarily directed at Fdc stands close to processing facilities. In addition, post spacing/ commercial thinning stocking levels will increase to minimize volume losses. Basic silviculture will maintain higher initial stocking levels to ensure full site occupancy. Aggressive planting and brushing programs are required. It is expected that these stands will be fertilized every 10 years.

3) Pruning will be restricted to "second lift" only. No new first lift pruning initiatives are expected to be given a priority.

4) Hw stands will be managed extensively to maximize volume on the shortest rotation

John Ingram

Quality Rating of TFL 57 (Iisaack) Sustainable Harvest RMP

category	yes	partly	no	Rating (H, M, L)
Submitted by August 18		X		Low
Basic data for TFL provided, area, AAC, current harvest forecast, site/age class species profile,			X	Low
History of past treatments provided			X	Low
Identified TSR issues			X	Low
Opportunities to increase timber supply addressed in text, e.g. short/mid/long-term, timber flow benefits. Refer to SH Guidelines Attachment 1			X	Low
Opportunities to increase timber value addressed in text, if none so stated. Refer to SH Guidelines Attachment 1			X	Low
Opportunities to increase habitat supply/biodiversity addressed in text, if none so stated. Refer to SH Guidelines Attachment 1			X	Low
Working targets proposed for volume/value/habitat			X	Low
Satisfactory treatment regime table provided			X	Low
Satisfactory rationale provided for the priority ranking of activities i.e. link to MP ,TSR, other			X	Low
Where habitat supply/biodiversity activity indicated, rationale on why the silviculture treatment specifically maintains the non-timber values				N/A for 2001-2002
All summary tables submitted satisfactorily		X		Medium
Projected job outcome of proposed program stated			X	Low
Opportunities to achieve FRBC performance goals. Is program within reasonable range of historic funding levels (i.e. +/-25%) State % of both last year and historic levels under the Y, partly, or no column as applicable				Low
Performance measures,…where TFL used local factors supporting rationale provided			X	Low
SH study/research form completed satisfactorily			X	Low
Communication log documents partnership group and stakeholder discussions and issues			X	Low
Other (describe)				
Overall rating	n/a	n/a	n/a	

COMMENTS FOR RMP 2001/2002 AND ON FOR TFL 57 - CLAYOQUOT

Prepared by: Dean McGeough on 08 August (Comments)
Modified by: Cees van Oosten on 15 August, after consultations with Dean McGeough

Reference: Meeting with West Island Timberlands – Clayoquot on 25 July (Mike Bragg and Dean McGeough), 27 July (West Island forestry staff and Dean McGeough in meeting with Diane, Derek and Cees), Discussions (phone) with Dean McGeough (phone) on 25 August.

Dated: August 15, 2000

BACKLOG ACTIVITIES

- **BACKLOG REFORESTATION**

Surveys - 2,000 hectares for 2001/2002

Backlog surveys: includes pre-stand tending surveys for sites where alder will need treatment and for sites where FG declaration can be made (especially sites where alder treatments have been completed in 1998/99); liability reduction.

Note that the unit cost for Backlog surveys is $ 25.00 per hectare. This includes plot taking, maps and comments, but does not include prescription development and planning.

Brushing - 300 hectares planned for 2001/2002

Backlog brushing: primarily red alder that has in-filled plantations and reduces growth potential of the conifers; target strategy for blocks where roads are being deactivated in the next few years; to permit FG declaration following treatments.

Note that: All unit costs include a 10% charge to the contract unit cost to cover checkers' and coordinators' costs. This charge is reported as part of the unit cost.

Funds for prescriptions and planning (which includes layout) are calculated at 8% of the "contract" project costs (not including survey costs), or $ 33,600 (this is 8% of the brushing unit cost for a contract, which is $ 1,200/ha, e.g. 8% x $1,200 x 350 hectares).

- **IMPEDED AREAS**

Surveys - 100 hectares planned for 2001/2002

Impeded area surveys: includes exploration into sites with Douglas-fir and snow pressed sites; to determine opportunity for sanitation cutting out of the defective or ecologically off-site species.

Note that the unit cost for Backlog surveys is $ 25.00 per hectare. This includes plot taking, maps and comments, but does not include prescription development and planning.

"Brushing" - 100 hectares planned for 2001/2002

Brushing is a catchall category for below-mentioned projects.
Species conversion: continue with removal of off-site Lodgepole pine and Douglas fir from Cw/Hw sites; optimizes future growth and yields. Possibility to include the removal of dense stands off-site Amabilis fir (which are shutting down) and release the preferred Cw, Yc, Hw.

Note that: All unit costs include a 10% charge to the contract unit cost to cover checkers' and coordinators' costs. This charge is reported as part of the unit cost.

Funds for prescriptions and planning (which includes layout) are calculated at 8% of the "contract" project costs (not including survey costs), or $ 9,600 (this is 8% of the "brushing" unit cost for a contract, which is $ 1,200/ha, e.g. 8% x $1,200 x 100 hectares).

- **SITE RESTORATION**

Rehabilitation - 50 hectares planned for 2001/2002

Surveys for this project are covered under Enhanced Forestry Activities.

Hydro-riparian spacing: Tranquil River, Cypre River, Kennedy River and Clayoquot Arm can be treated to enhance the attainment of Old Forest attributes of spatial diversity, CWD, Wildlife trees, flora diversity with timber benefits of increasing wind firmness and thereby reducing the extensive need to constrain RMZ lands along S1-S3 streams adjacency issues of VQO and recreation can be reduced by extending the spacing strategy debris dependent S5 and S6 streams that drain directly into fish streams.

Note that: All unit costs include a 10% charge to the contract unit cost to cover checkers' and coordinators' costs. This charge is reported as part of the unit cost.

Funds for surveys are included under Enhanced Forestry Activities. Funds for prescriptions and planning (which includes layout) are calculated at 10% of the "contract" project costs (not including survey costs), or $ 13,000 (this is 10% of the Rehabilitation costs for a contract, which is $ 2,600/ha, e.g. 10% x $2,600 x 50 hectares). These projects require additional resources on SMP development and planning, hence the charge of 10%, which is the "Enhanced" rate.

ENHANCED ACTIVITIES

- **STAND TENDING**

Surveys - 800 hectares planned for 2001/2002

Enhanced surveys: primarily to conduct surveys into riparian networks alongside Tranquil River, Kennedy River, Clayoquot Arm and Cypre where adjacency, visual quality, and wind firmness benefits can increase accessible timber harvest land base.

Note that the unit cost for Enhanced surveys is $ 27.50 per hectare. This includes plot taking, maps and comments, but does not include prescription development and planning.

The survey budget includes funds for hydro-riparian surveys. As a treatment, this project is listed under Backlog: Site Restoration.

Spacing - NO hectares planned for 2001/2002

Provisions are included in the plan to carry out some spacing starting in 2002/2003; target snow-press susceptible HwBa stands or large homogenous openings to promote structural diversity and flexibility for 2nd growth harvest planning (spaced stands will be more wind firm and can serve as leave areas).

Pruning - NO hectares planned for 2001/2002

Pruning: follow-up 2nd lift in 2004 – 2006 to openings treated in 1997-1999; for increased wood quality; stands with extended rotations.

Fertilization - 300 hectares planned for 2001/2002

Fertilization: with promising results from SCHIRP trials, fertilize Cw-salal dominated sites for increased Cw growth and crown closure achievement. Included in this project is fertilization on salal-dominated sites where Amabilis Fir is shutting down. Treatments will also hasten FG attainment for marginal sites.

The unit contract cost for the fertilization is $ 400/ha (aerial application). This allows for the general increase in urea costs, but would also allow for the application of "non-traditional" mixes, e.g. SCHIRP.

Other - NO planned for 2001/2002

Provisions are made to convert older stands, now dominated by mature alder, to conifer sites, using the existing (but overtopped) conifer component. This project will take place in isolated areas. There is no opportunity to remove the alder in a commercial operation, as the conifer component needs to be released gradually.

Note that: All unit costs include a 10% charge to the contract unit cost to cover checkers' and coordinators' costs. This charge is reported as part of the unit cost.

Funds for prescriptions and planning (which includes layout) are calculated at 10% of the "contract" project costs (not including survey costs), or $ 12,000 (this is 10% of the contract costs for Fertilization, which is $ 400/ha, e.g. 10% x $400 x 300 hectares). Enhanced projects require additional resources for SMP development and planning, hence the charge of 10%, which is the "Enhanced" rate.

PLEASE NOTE: All the above treatments are in accordance with the MWP objectives. Additionally, treatments will meet the objectives of encouraging special habitats alongside riparian areas, while promoting local employment and 1st Nations forest uses.

INPUT PERFORMANCE MEASURES

The RMP spreadsheet with the input tables also has an "Input Performance Measure" table, in which the licensee can alter values to replace the default values from the MOF. At the July 27 meeting we asked Diane Medves which values we should be using. She was going to provide us with a table to use. However, we have yet to receive these values from her. Instead she sent us a list of regimes used by North Island for TFL 39. Cees discussed this with Derek last Friday and he commented that we would worry about this later.

APPENDIX 4

COMMUNICATION LOGS

Agency: **Ministry of Forest Chilliwack District**
TFL:
TSA: **Fraser**

Communication Log for the Sustainable Harvest Objective 2001-2002

Date	***Name***	***Representing***	***Communication Method***	***Comments/Issues***
7-Sep	Mike Younie	Environment	e-mail	would be beneficial from environments point of view to include some habitat supply and biodiversity enhancement activities to demonstrate toFRBC that the work is being done

Agency: **TimberWest**
TFL: **TFL 47 Johnstone Straits**
TSA:

Communication Log for the Sustainable Harvest Objective 2001-2002

Date	*Name*	*Representing*	*Communication Method*	*Comments/Issues*
20-Jul-00	Colin Buss	TFL Johnstone Straits Operations	Meeting at Middlepoint	Revised 2000/01 RMP
	Jack Turley	TimberWest Vancouver Office		
	Norm Caldicott	TimberWest Vancouver Office		
7/20/2000	Colin Buss	TFL Johnstone Straits Operations	Meeting at Middlepoint	Initial edits on 2001/02 RMP
	Jack Turley	TimberWest Vancouver Office		
8/4/2000	Colin Buss	TFL Johnstone Straits Operations	Meeting at Middlepoint	Final edits on 2001/02 RMP
	Jack Turley	TimberWest Vancouver Office		
8/4/2000	Jack Turley	TimberWest Vancouver Office	Phone conversation	Discussed submission process.
	John Ingram	MoF - Campbell River		

Agency: **MOF**
TFL:
TSA:Stathcona

Communication Log for the Sustainable Harvest Objective 2001-2002

Date	*Name*	*Representing*	*Communication Method*	*Comments/Issues*
Aug. 15	Al Barber	Canfor	E Mail	No concerns with sustainable harvest section of RMP
Aug. 2	Nigel Ross	Interfor	FAX	Spacing density low (750) and would result in volume loss. Pruning should have individual tree fertilization (hand) at the same time.

Agency: **TimberWest**
TFL: **TFL 47 Beaver Cove**
TSA:

Communication Log for the Sustainable Harvest Objective 2001-2002

Date	*Name*	*Representing*	*Communication Method*	*Comments/Issues*
19-Jul-00	Gord Glover	TFL Beaver Cove Operations	Meeting at Beaaver Cove	Revised 2000/01 RMP
	Jack Turley	TimberWest Vancouver Office		
	Norm Caldicott	TimberWest Vancouver Office		
8/1/2000	Gord Glover	TFL Beaver Cove Operations	Meeting at Beaaver Cove	Edited 2001/02 RMP
	Kevin Laird	TFL Beaver Cove Operations		
	Jack Turley	TimberWest Vancouver Office		
8/1/2000	Jack Turley	TimberWest Vancouver Office	Meeting at MoF office	Introductory meeting - set timelines.
	Glen Smith	MoF Pt McNeill		

Agency: **MOF Sunshine Coast Forest District**
TFL: **Weyerhaeuser**
TSA: **Sunshine Coast**

Communication Log for the Sustainable Harvest Objective 2001-2002

Date	*Name*	*Representing*	*Communication Method*	*Comments/Issues*
July 5/00	John Clark	Terminal Forest FL	Phone	Set up RMP meeeting and discussed RMP process and issues for 2001/2002
July 5/00	Dave Mogensen	Western Forest FL	Phone	Set up RMP meeting and discussed RMP process
July 5/00	Marion Blank	Weyco TFL	Phone	Discussed TFL RMP process and requested information prior to Aug 18/00.
July 5/00	Ian Robertson	Interfor FL	Phone	Set up RMP meeting and discussed RMP process
July 5/00	Warren Hansen	Canfor FL	Phone	Set up RMP meeting and discussed RMP process
July 17/00	Marion Blank	Weyco TFL	Direct Meeting	Discussed information requirements of the TFL RMP
July 18/00	Brian Priest	Terminal Forest FL	RMP Meeting	Discussed RMP process and received information inputs from Terminal
July 19/00	Warren Hansen	Canfor FL	RMP Meeting	RMP Meeting to discuss this year's RMP and received information inputs from Canfor
July 19/00	Dennis Lozinsky	Interfor FL	RMP Meeting	RMP Meeting to discuss this Year's RMP and receive information inputs from Interfor
July 20/00	Dave Mogensen	Western Forest FL	Rmp Phone Meeting	RMP Meeting to discuss this year's RMP and receive information inputs from Western.

Agency: **TimberWest**
TFL: **TFL 46**
TSA:

Communication Log for the Sustainable Harvest Objective 2001-2002

Date	*Name*	*Representing*	*Communication Method*	*Comments/Issues*
17-Jul-00	Tom Jones	TFL HBO Operations	Meeting at Gordon River	Revised 2000/01 RMP
	Blair Pigeon	TFL HBO Operations		
	Dave Elstone	EBA Implementation Contractor		
	Norm Caldicott	TimberWest Vancouver Office		
8/8/2000	Tom Jones	TFL HBO Operations	Phone conversation	Final edits to 2001/02 RMP
	Jack Turley	TimberWest Vancouver Office		

Agency: **Ministry of Forests - South Island Forest District**
TFL:
TSA:

Communication Log for the Sustainable Harvest Objective 2001-2006 RMP

Date	*From*	*Representing*	*To*	*Representing*	*Communication Method*	*Comments/Issues*
10-Aug	Jack Turley	TFL Forest	Norm Nalleweg	MOF	E-mail	SH Tables and write-up submitted
18-Aug	Brent Cormack	Weyerhaeuser	Brent Stoll	MOF	E-mail	SH Tables and write-up blank
22-Aug	Norm Nalleweg	MOF	Ian Robertson	Interfor	e-mail	Request RMP
22-Aug	Kerry McGourlik	WFP	Norm Nalleweg	MOF	E-mail	SH Tables and write-up submitted
22-Aug	Norm Nalleweg	MOF	Kerry McGourlik	WFP	E-mail	Request resubmission
22-Aug	Kerry McGourlik	WFP	Norm Nalleweg	MOF	E-mail	SH Tables and write-up re-submitted
22-Aug	Norm Nalleweg	MOF	Brent Cormack	Weyerhaeuser	E-mail	Request resubmission of text portion of RMP.
22-Aug	Norm Nalleweg	MOF	Ian Robertson	Interfor	E-mail	Request submission of SH RMP information.
22-Aug	Brent Cormack	Weyerhaeuser	Norm Nalleweg	MOF	E-mail	Resubmit text file but still blank.
22-Aug	Norm Nalleweg	MOF	Brent Cormack	Weyerhaeuser	E-mail	Request word file.
22-Aug	Brent Cormack	Weyerhaeuser	Norm Nalleweg	MOF	Telephone	Text file was just a letter saying here is the spreadsheets for TFL 44 & 57. TFL 57 is the Iisaack breakout of TFL 44.
23-Aug	Ian Robertson	Interfor	Norm Nalleweg	MOF	E-mail	RMP to be submitted by end of week.
23-Aug	Norm Nalleweg	MOF	Cees van Oosten	Weyerhaeuser	Telephone	Looking for RMP text. He will forward to me tomorrow at latest.
23-Aug	Norm Nalleweg	MOF	Kerry McGourlik	WFP	E-mail	Request silvi history and question fert and spacing costs.
23-Aug	Kerry McGourlik	WFP	Norm Nalleweg	MOF	E-mail	Explained higher than normal fertilisation costs. Will forward Silvi history next week.
24-Aug	Cees van Oosten	Weyerhaeuser	Norm Nalleweg	MOF	E-mail	Cees forwarded to me a copy of their RMP comments for TFL 44 & 57.
24-Aug	Norm Nalleweg	MOF	Cees van Oosten	Weyerhaeuser	E-mail	Wrote Cees back to say the comments are not in the format required. We also need a regime table and silvi history. Linked him the WEB site for the RMP guidelines explaining procedures.
24-Aug	Kerry McGourlik	WFP	Norm Nalleweg	MOF	E-mail	Need SH tables to include priorities and regime table
24-Aug	Norm Nalleweg	MOF	Ian Robertson	Interfor	e-mail	Point out some things that need to be included with RMP submission. Regime table, silvi history, priorities.

Communication Log for the Sustainable Harvest Objective 2001-2006 RMP

Date	*From*	*Representing*	*To*	*Representing*	*Communication Method*	*Comments/Issues*
24-Aug	Cees van Oosten	Weyerhaeuser	Norm Nalleweg	MOF	E-mail	Cees is forwarding my note to Diane Medves. He thought the regime table was already in the other tables.
28-Aug	Ian Robertson	Interfor	Norm Nalleweg	MOF	E-mail	RMP won't be in to the district until Sept 1.
29-Aug	Cam Forrester	Interfor	Norm Nalleweg	MOF	Telephone	Left message
29-Aug	Diane Medves	Weyerhaeuser	Norm Nalleweg	MOF	Telephone	Left message
30-Aug	Norm Nalleweg	MOF	Diane Medves	Weyerhaeuser	Telephone	Discussed the need for written text as per guidelines. Diane felt that at the planning meeting that text was not required as all the information was in the MWP. They did not have a silvi history but would try and get it to us next week. They did not have a regime table available. I would discuss with Larry Sigorsen on his return from holidays.
31-Aug	Norm Nalleweg	MOF	Diane Medves	Weyerhaeuser	Telephone	Request E-mail address to forward Quality rating form. Some items should be provided that will not be covered off in the MWP
31-Aug	Norm Nalleweg	MOF	Diane Medves	Weyerhaeuser	E-mail	E-mail the Quality rating of there present submission with the intent on giving them a heads up that there are some things they should be submitting regardless of what Larry Sigorsen says regarding information available in their MWP.
1-Sep	Cam Forrester	Interfor	Norm Nalleweg	MOF	Telephone	Talked with Cam and explained the content requirements. Promised to send TFL Forest copy as an example as it is quite thorough. Explained MOF will do the TSA and he has only to be concerned with the TFL.
1-Sep	Norm Nalleweg	MOF	Cam Forrester	Interfor	E-mail	Sent Cam the TFL documents as a sample.
1-Sep	Diane Medves	Weyerhaeuser	Norm Nalleweg	MOF	E-mail	Sent more information including Cover Letter, Regime table and Silvi history.
1-Sep	Brent Cormack	Weyerhaeuser	Norm Nalleweg	MOF	E-mail	Sent me a copy of the stuff Diane already forwarded.
1-Sep	Jack Turley	TFL Forest	Norm Nalleweg	MOF	E-mail	Decided not to ad one more research project.

Communication Log for the Sustainable Harvest Objective 2001-2006 RMP

Date	*From*	*Representing*	*To*	*Representing*	*Communication Method*	*Comments/Issues*
5-Sep	Cam Forrester	Interfor	Norm Nalleweg	MOF	E-mail	Cam requested last years RMP. Also said that he could not get into my last e-mail attachments but did not specifically ask me to resend.
5-Sep	Norm Nalleweg	MOF	Cam Forrester	Interfor	E-mail	Sent last years RMP documents.
5-Sep	Norm Nalleweg	MOF	Larry Sigurdson	MOF	Telephone	Talked about the roll-up and problems with submissions. Have not got Intefor's. Will submit what I have but would have to wait until Friday to submit a complete roll-up.
5-Sep	Norm Nalleweg	MOF	Dean Stewart	MOF	Telephone	Ask Dean to review the district write-up.
8-Sep	Norm Nalleweg	MOF	Cam Forrester	Interfor	telephone/E-mail	Varoius calls and e-mails throughout the day trying to get the excel tables completed. Completed at 15:30. No other written text was provided upto this time.

Agency: **MoF Region**
TFL:
TSA:

Communication Log for the Sustainable Harvest Objective 2001-2002

Date	*Name*	*Representing*	*Communication Method*	*Comments/Issues*
16-Jun	FRBC coordinators	MELP, TFL, MoF, Fraser TSA	conference ca g	purpose of SH planning team
20-Jun	FRBC coordinators	All FRBC coordinators	email	minutes of conference call
23-Jun	Medves, Robertson, Davis, Luscombe,Wood	Licensees, MoF, MELP FRBC	meeting	reviewed and set SH submission requirements
30-Jun	All FRBC coordinators	MoF, MELP, licensees, FRBC	email	guidelines for submitting SH RMP
12-Jul	All FRBC coordinators	MoF, MELP, licensees, FRBC	email	minutes of SH planning meeting
18-Aug	MoF FRBC coordinators	MoF,	email	suggested TFL submission for review
9-Sep	Ian Robertson	IFP	email	status of overdue TFL submissions
14-Sep	Diane Medves	Weyco	email	requested supporting research information
14-Sep	Ken Hall	WFP	email	provide priorities for TFL 25
15-Sep	Mark Salzl	MoF	email	status of JS Jones submission and follow up
26-Sep	SH planning team	Licensee reps, MoF, FRBC, MELP	meeting	review SH process, funding requests next steps

Agency: **Ministry of Forest Chilliwack District**
TFL:
TSA: **Fraser**

Communication Log for the Sustainable Harvest Objective 2001-2002

Date	***Name***	***Representing***	***Communication Method***	***Comments/Issues***
7-Sep	Mike Younie	Environment	e-mail	would be beneficial from environments point of view to include some habitat supply and biodiversity enhancement activities to demonstrate toFRBC that the work is being done

APPENDIX 5

PROPOSED STUDIES LIST AND OR SUPPORTING INFORMATION

see

Section 1.4.1.4

APPENDIX 6

SUSTAINABLE HARVEST ACTIVITY/PROGRAM TABLES

BRITISH COLUMBIA
Ministry of Forests
Chilliwack Forest District

MEMORANDUM

File: 22201-09

September 11, 2000

To: Larry Sigurdson
Vancouver Forest Region

From: Craig Wickland

Re: 2001 Resource Management Plan Priorities and Issues

The 1998 Resource Management Plan (RMP), developed based on the Type 1 Analysis, is the bases for the 2001 RMP Tables and Submissions.

Backlog

The highest priority items are those under which there is a legal obligation. These works include all activities needed to produce a Free Growing Stand where a Backlog Silviculture Prescription (BSP) has been approved and implemented.

The Regeneration Table from the 1998 RMP ranks reforesting of the Backlog Non Sufficiently Restocked (NSR) as the highest priority activity. This includes Surveys, Establishment and Maintenance. The Chilliwack District also developed guidelines for reforesting Backlog NSR based on investment criteria. These guidelines are used to determine which areas are good investment and which are not. Areas of poor investment, such as small isolated NSR are often classified as stocked at a reduced stocking level. BSPs are developed for areas of good investment.

Enhanced

The Regeneration Table from the 1998 RMP ranks Fertilization as the highest priority activity followed by Spacing and Pruning. Therefore the priority for Fertilization on the current 2001 Table is shown as Priority 1 and Pruning and Spacing as Priority 2.

District specific guidelines for Spacing and Pruning activities were developed in 1998, which prioritized individual units within each activity. Only those Spacing and Pruning activities, which meet medium or high priority, are included on the 2001 RMP Tables.

Issues

1. The Major Issue for the 2001 RMP is Habitat Enhancement. Ministry of Environment, Lands and Parks is very interested in Habitat Enhancement Activities, specifically those

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within Riparian Reserve Zones. The goal is to create Old Growth Attributes within Riparian Reserve Zones. No specific projects are currently identified. This activity did not have a priority associated with it in the 1998 RMP.

2. The second issue is conducting of enhanced activities within spotted owl areas. The issue was never fully dealt with on the 1998 RMP.

   Due to extended rotations within Spotted Owl Management Zones, Enhanced Activities such as Spacing, Pruning and Fertilization are often seen as poor investments. Product objectives can often be obtained without management due to these long rotations.

   Priorities for work with a Special Management Zones must be re-assessed with an investment strategy developed. Currently, few if any activities are scheduled within Special Resource Management Zones associated with Spotted Owls.

Craig Wickland, R.P.F.
Silviculture Forester
Chilliwack Forest District

Table 1: SUMMARY OF DISTRICT AND LICENSEE RMP SUBMISSIONS

Activities	Treatment Area Goals (ha)					Plan 2001/02			Comments
	2001/	2002/	2003/	2004/	2005/	Unit Cost	Funding	Priority	
Habitat Supply and Biodiversity Enhancement - Campbell River Forest District									
Riparian treatments	0	0	0	0	0	0.00	0		
Non-riparian treatments	50	50	50	50	50	2,000.00	100000	3	Strath. TSA
Totals	50	50	50	50	50	2,000.00	100,000		
Studies:							27000	1	TFL 47 - ??
							40000		TFL 39
Prescriptions:							7500		TFL 25
							3750		TFL 25 Blk 3
							15000		TFL 45
							20000		TFL 47
							100000		Strath. TSA
Habitat Supply and Biodiversity Enhancement - Chilliwack Forest District									
Riparian treatments	0	0	0	0	0	0.00	0		
Non-riparian treatments	0	0	0	0	0	0.00	0		
Totals	0	0	0	0	0	0.00	0		
Prescriptions:							75000		Fraser TSA
							5000		TFL 26
Habitat Supply and Biodiversity Enhancement - Mid-Coast Forest District									
Riparian treatments	10	10	10	10	10	3,000.00	30000	2	TFL 39
Non-riparian treatments	0	0	0	0	0	0	0		
Totals	10	10	10	10	10	3,000.00	30,000		
Habitat Supply and Biodiversity Enhancement - South Island Forest District									
Riparian treatments	0	0	0	0	0	0	0		
Non-riparian treatments	0	50	150	300	300	0.00	0		TFL 44
Non-riparian treatments	10	10	10	10	10	2,000.00	20000	2	TFL 46
Totals	10	60	160	310	310	2,000.00	20,000		
Studies:							25000		TFL 44 -
							25000		TFL 44 - OG
							30000	1	TFL 25 ??

	12000		TFL 46 - ??
Prescriptions:	2000	2	TFL 54
	43750		Arrows.TSA
	15750		TFL 25
	12000		TFL 57
	50000		TFL 44
	40000		TFL 46

Habitat Supply and Biodiversity Enhancement - Port McNeill Forest District

Riparian treatments	30	35	35	35	35	2,500.00	75000	1	TFL 6
Non-riparian treatments	20	0	0	0	0	2,500.00	50000	1	TFL 6
Non-riparian treatments	20	0	0	0	0	1,800.00	36000	2	TFL 47
Totals	70	35	35	35	35	2,300.00	161,000		
Studies:							200000	1	TFL 6 ??
							18000	1	TFL 47 - ??
Prescriptions:							60000		TFL 6
							15000		TFL 45
							40000		TFL 47
							36000		Kingc.TSA

Habitat Supply and Biodiversity Enhancement - Queen Charlotte Islands Forest District

Riparian treatments	40	20	20	20	20	2,000.00	80000	1	QCI TSA
Non-riparian treatments	0	0	0	0	0	0.00	0		
Totals	40	20	20	20	20	2,000.00	80,000		
Studies:							50000	1	TFL 39 - vds
Prescriptions:							26250		TFL 25

Habitat Supply and Biodiversity Enhancement - Squamish Forest District

Riparian treatments	0	0	0	0	0	0.00	0		
Non-riparian treatments	14	0	0	0	0	2,786.00	39005	3	Soo TSA
Totals	14	0	0	0	0	2,786.07	39,005		
Studies:							25000		Soo TSA - ??

Habitat Supply and Biodiversity Enhancement - Sunshine Coast Forest District

Riparian treatments	10	10	10	10	10	1,700.00	17000	2	SCoast TSA
Riparian treatments	10	10	10	10	10	3,000.00	30000	2	
Non-riparian treatments	20	20	20	20	20	1,700.00	34000	2	SCoast TSA

Totals	40	40	40	40	40	2,025.00	81,000	
Studies:							40000	1 TFL 39 -
Prescriptions:							4000	TFL 39

Habitat Supply and Biodiversity Enhancement - Regional Totals

Riparian treatments	100	85	85	85	85	2,320.00	232000	
Non-riparian treatments	134	130	230	380	380	2,082.13	279005	
Totals	234	215	315	465	465	2,183.78	511,005	

Table 2: SUMMARY OF MELP RECOMMENDED ACTIVITIES

Note: 1) Where recommended activities differ from those proposed by licensees and the MoF, text is shown in *bold italic* .
Note: 2) The district's WRP plan should be reconciled with this submission.
Note: 3) Where prescriptions are scheduled, check that these include habitat/biodiversity opportunities.
Note: 4) Some licensees have not elaborated on the topics covered by "studies".

Activities	**Treatment Area Goals (ha)**						**Plan 2001/02**			Comments
	2001/	**2002/**	**2003/**	**2004/**	**2005/**		**Unit Cost**	**Funding**	**Priority**	
Habitat Supply and Biodiversity Enhancement - Campbell River Forest District										
Riparian treatments	0	0	0	0	0			0		
Non-riparian treatments	50	50	50	50	50		2,000.00	100000	3	Strath. TSA
Totals	50	50	50	50	50		2,000.00	100,000		
Studies:								27000	1	TFL 47 - ??
								40000		TFL 39
Prescriptions:								7500		TFL 25
								3750		TFL 25 Blk 3
								15000		TFL 45
								20000		TFL 47
								100000		Strath. TSA
Habitat Supply and Biodiversity Enhancement - Chilliwack Forest District										
Riparian treatments	0	***50***	***100***	***100***	***100***			***0***		
Non-riparian treatments	0	***350***	***350***	***350***	***350***			***0***		
Totals	***0***	***400***	***450***	***450***	***450***		***0.00***	***0***		
Studies:								***20000***		***All - NSO***
Prescriptions:								75000		Fraser TSA
								5000		TFL 26
Habitat Supply and Biodiversity Enhancement - Mid-Coast Forest District										
Riparian treatments	10	10	10	10	10		3,000.00	30000	2	TFL 39
Non-riparian treatments	***20***	***20***	***20***	***20***	***20***		***2000***	***40000***		***All - GB***
Totals	***30***	***30***	***30***	***30***	***30***		***2,333.33***	***70,000***		
Studies:								***20000***		***Rip. op.***
Prescriptions:						***100***	***50***	***5000***		***GB, for,rip***

Habitat Supply and Biodiversity Enhancement - South Island Forest District

Riparian treatments	0	0	0	0	0		0		
Non-riparian treatments	0	50	150	300	300		0		TFL 44
Non-riparian treatments	10	10	10	10	10	2,000.00	20000	2	TFL 46
Totals	10	60	160	310	310	2,000.00	20,000		
Studies:							25000		TFL 44 -
							25000		TFL 44 - OG
							30000	1	TFL 25 ??
							12000		TFL 46 - ??
Prescriptions:							2000	2	TFL 54
							43750		Arrows.TSA
							15750		TFL 25
							12000		TFL 57
							50000		TFL 44
							40000		TFL 46

Habitat Supply and Biodiversity Enhancement - Port McNeill Forest District

Riparian treatments	30	35	35	35	35	2,500.00	75000	1	TFL 6
Non-riparian treatments	20	***20***	***20***	***20***	***20***	2,500.00	50000	1	TFL 6
Non-riparian treatments	20	***20***	***20***	***20***	***20***	1,800.00	36000	2	TFL 47
Totals	70	***75***	***75***	***75***	***75***	2,300.00	161,000		
Studies:							200000	1	TFL 6 ??
							18000	1	TFL 47 - ??
Prescriptions:							60000		TFL 6
							15000		TFL 45
							40000		TFL 47
							36000		Kingc.TSA

Habitat Supply and Biodiversity Enhancement - Queen Charlotte Islands Forest District

Riparian treatments	40	***53***	20	20	20	2,000.00	80000	1	QCI TSA
Riparian treatments	***41***	***46***	***20***	***24***	***50***	***2,000.00***	***82000***	***1***	***TFL 39***
Riparian treatments	***0***	***60***	***60***	***72***	***50***		***0***		***TFL 24***
Riparian treatments	***53***	***20***	***20***	***20***	***20***	***2,000.00***	***106000***		***TFL 47***
Riparian treatments	***16***	***34***	***10***	***10***	***10***	***2,000.00***	***32000***		***Husby***
Non-riparian treatments	0	0	0	0	0		0		
Totals	***150***	***213***	***130***	***146***	***150***	***2,000.00***	***300,000***		
Studies:							50000	1	TFL 39 - vds

Prescriptions:								26250		TFL 25
						90 ha	*50*	*4500*		*TFL 39*
						192 ha	*50*	*9750*		*TFL 24*
						20 ha	*50*	*1000*		*TFL 47*
						34 ha	*50*	*1750*		*Husby*
						56 ha	*50*	*2800*		*TSA*

Habitat Supply and Biodiversity Enhancement - Squamish Forest District

Riparian treatments	0	0	0	0	0			0		
Non-riparian treatments	14	*150*	*150*	*150*	*150*		2,786.00	39005	3	Soo TSA
Totals	14	*150*	*150*	*150*	*150*		2,786.07	39,005		
Studies:								25000		Soo TSA - ??
Prescriptions:						*50 ha*	*50*	*2500*		*Forage*
						100 ha	*50*	*5000*		*NSO*

Habitat Supply and Biodiversity Enhancement - Sunshine Coast Forest District

Riparian treatments	10	10	10	10	10	1,700.00	17000	2	SCoast TSA
Riparian treatments	10	10	10	10	10	3,000.00	30000	2	
Non-riparian treatments	20	20	20	20	20	1,700.00	34000	2	SCoast TSA
Totals	40	40	40	40	40	2,025.00	81,000		
Studies:							40000	1	TFL 39 -
Prescriptions:							4000		TFL 39

Licensee and MoF Submission Totals

Habitat Supply and Biodiversity Enhancement - Regional Totals

Riparian treatments	100	85	85	85	85	2,320.00	232000	
Non-riparian treatments	134	130	230	380	380	2,082.13	279005	
Totals	234	215	315	465	465	2,183.78	511,005	

Recommended totals

Habitat Supply and Biodiversity Enhancement - Regional Totals

Riparian treatments	***210***	***328***	***295***	***311***	***325***	***2,152.38***	***452000***	
Non-riparian treatments	***154***	***690***	***790***	***940***	***940***	***2,071.46***	***319005***	
Totals	***364***	***1018***	***1085***	***1251***	***1265***	***2,118.15***	***771,005***	

Tabular Backlog Recommendations for 2001/2002

Backlog $	Priority 1 $$	Priority 1 % Grand Totals	Priority 2 $$	Priority 2 % Grand Totals	Priority 3 $$	Priority 3 % Grand Totals	Priority Total $$	Total % of Grand Totals	Recommended Funding Level	% funding level	Units	Unit Costs	Proportion of Budget	Gain Factors	Potential Gains (m3)	Employment factor	Employment (person/days)
Legal																	
surveys	$60,217	0.7	$0	0	$0	0	$60,217	0.7	$60,217	100%	1286	$46.83	0.76%	0.25	321	0.1	129
site prep	$11,880	0.1	$0	0	$0	0	$11,880	0.1	$11,880	100%	14	$848.57	0.15%	0.00	0	0.95	13
planting	$153,100	1.7	$0	0	$0	0	$153,100	1.7	$153,100	100%	137	$1,117.52	1.94%	1.90	260	2	274
brushing	$275,300	3.1	$0	0	$0	0	$275,300	3.1	$275,300	100%	238	$1,156.72	3.48%	0.25	60	2.61	621
max density	$0	0	$0	0	$0	0	$0	0	$0				0.00%	0.00	0	3.96	0
seed	$4,400	0	$0	0	$0	0	$4,400	0	$4,400	100%	9770	$0.45	0.06%	0.00	0	0.34	3324
Total legal $	$504,897	5.6	$0	0	$0	0	$504,897	5.6	$504,897	100%			6.39%		641		4362
Reforest																	
surveys	$340,500	3.8	$39,000	0.4	$2,250	0	$381,750	4.2	$324,487.50	85%	12500	$25.96	4.10%	0.25	3125	0.1	1250
Site prep	$83,500	0.9	$27,000	0.3	$0	0	$110,500	1.2	$93,925.00	85%	106	$884.00	1.19%	0.00	0	0.95	101
planting	$732,250	8.1	$186,200	2.1	$0	0	$918,450	10.2	$780,682.50	85%	469	$1,663.86	9.87%	1.90	891	2	938
Brushing	$1,575,500	17.5	$0	0	$0	0	$1,575,500	17.5	$1,339,175.00	85%	1063	$1,260.40	16.94%	0.25	266	2.61	2773
seed	$19,500	0.2	$7,500	0.1	$0	0	$27,000	0.3	$22,950.00	85%	128	$179.55	0.29%	0.00	0	0.34	43
Presc/plan	$116,000	1.3	$15,400	0.2	$0	0	$131,400	1.5	$111,690.00	85%			1.41%	0.00	0	0.1	0
Total Refor $	$2,867,250	31.8	$275,100	3.1	$2,250	0	$3,144,600	34.9	$2,672,910	85%			33.81%		4282		5106
Impeded																	
Surveys	$347,850	3.9	$43,010	0.5	$0	0	$390,860	4.3	$390,860	100%	10227	$38.22	4.94%	0.25	2557	0.1	1023
Brushing	$3,101,500	34.4	$376,175	4.2	$0	0	$3,477,675	38.6	$3,477,675	100%	3135	$1,109.31	43.99%	0.25	784	2.61	8182
Density SP	$0	0	$0	0	$0	0	$0	0	$0				0.00%	0.00	0	3.96	0
Presc/plan	$113,150	1.3	$14,400	0.2	$0	0	$127,550	1.4	$127,550	100%			1.61%	0.00	0	0.1	0
Total imped $	$3,562,500	39.6	$433,585	4.9	$0	0	$3,996,085	44.3	$3,996,085	100%			50.55%		3340		9205
Site restoration																	
Fill plant	$0	0	$0	0	$0	0	$0	0	$0				0.00%	1.90	0	2	0
rehab	$1,105,500	12.3	$20,000	0.2	$0	0	$1,125,500	12.5	$562,750	50%	190	$2,954.07	7.12%	0.00	0	0.95	181
reforestation	$100,500	1.1	$0	0	$0	0	$100,500	1.1	$50,250	50%	36	$1,395.83	0.64%	1.90	68	2	72
seed	$4,080	0	$0	0	$0	0	$4,080	0	$2,040	50%	5829	$0.35	0.03%	0.00	0	0.34	1982
Presc/plan	$44,000	0.5	$0	0	$0	0	$44,000	0.5	$22,000	50%			0.28%	0.00	0	0.1	0
Total site restore $$	$1,254,080	13.9	$20,000	0.2	$0	0	$1,274,080	14.1	$637,040	50%			8.06%		68		0
Studies	$95,000	1.1	$0	0	$0	0	$95,000	1.1	$95,000	100%			1.20%	0.00		0.1	0
Grand total	$8,283,727	92	$728,685	8.2	$2,250	0	$9,014,662	100	$7,905,932	88%			100.00%		8332		18672

2000/01 = $7,894,443

Tabular Enhanced Forestry Recommendations for 2001/2002

Backlog $	Priority 1 $$	Priority 1 % Grand Totals	Priority 2 $$	Priority 2 % Grand Totals	Priority 3 $$	Priority 3 % Grand Totals	Priority Total $$	Total % of Grand Totals	Recommended Funding Level	% funding level	Units	Unit costs	Proportion of Budget	Gain Factors	Potential Gains (m3)	employment factors	employment Person/days
Stand Tending																	
surveys	$881,675	3.2	$242,000	0.9	$5,000	0	$1,128,675	4	$445,325	39%	11323	$39.33	4%	0.25	2831	0.1	1132
spacing	$4,345,500	15.6	$5,623,300	20.1	$0	0	$9,968,800	35.7	$5,470,592	55%	3200	$1,709.56	49%	0	0	3.96	12672
pruning	$490,000	1.8	$5,888,650	21.1	$1,055,000	3.8	$7,433,650	26.6	$1,706,208	23%	800	$2,132.76	15%	0	0	4.54	3632
fertilization	$6,276,291	22.5	$596,685	2.1	$0	0	$6,872,976	24.6	$2,064,082	30%	6151	$335.58	19%	0.46	2829	0.18	1107
other	$75,000	0.3	$0	0	$175,000	0.6	$250,000	0.9		0%	0	$2,551.02		0	0		
Plans/presc	$525,250	1.9	$45,750	0.2	$0	0	$571,000	2	$333,994	58%	766	$435.98	3%		0		
Total	$12,593,716	45.1	$12,396,385	44.4	$1,235,000	4.4	$26,225,101	93.9	$10,020,201								
Forest Health																	
Spacing	$320,000	1.1	$40,000	0.1	$0	0	$360,000	1.3	$222,663	62%	37	$6,000.00	2%	0	0	3.96	147
pruning	$162,000	0.6	$66,000	0.2	$0	0	$228,000	0.8	$166,997	73%	168	$991.30	1%	0	0	4.54	765
other	$95,000	0.3	$25,000	0.1	$0	0	$120,000	0.45	$55,666	46%	320	173.91	0%	0	0		
Total	$577,000	2.1	$131,000	0.5	$0	0	$708,000	2.5	$445,325				4%				
Habitat Supply																	
Riparian	$75,000	0.3	$77,000	0.3	$0	0	$152,000	0.5	$111,331	73%	48	$2,320.00	1%	0	0		
Non riparian	$50,000	0.2	$90,000	0.3	$139,005	0.5	$279,005	1	$111,331	40%	53	$2,082.13	1%	0	0		
total	$125,000	0.4	$167,000	0.6	$139,005	0.5	$431,005	1.52	$222,663								
studies	$552,000	2	$0	0	$0	0	$552,000	2	$445,325	81%				0			
Grand Total	$13,847,716	49.6	$12,694,385	45.5	$1,374,005	4.9	$27,916,106	100	$11,133,514				100%		5660		19455

2000/01 = $11,133,128

Appendix 2: Vancouver Forest Region Backlog Activity Opportunities in Hectares
2001/2002
September 15 2000

Backlog	DCK			DSQ			DSC				DSI						
hectares	TSA	TFL26-Miss	Total ha	TSA	TFL38-IFP	Total ha	TSA	TFL10-IFP	TFL39-Wey	Total ha	TSA	TFL25-WFP	TFL54-IFP	TFL44-Wey	TFL46-TFL	TFL57-Wey	Total ha
Legal																	
surveys	79	0	79	400	0	400	0	0	0	0	0	0	0	0	0	0	0
site prep	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
planting	7	0	7	30	0	30	0	0	0	0	0	0	0	0	0	0	0
brushing	74	0	74	30	0	30	0	0	30	30	0	0	0	0	0	0	0
max density	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total ha	169	0	169	460	0	460	0	0	30	30	0	0	0	0	0	0	0
Seed	6800	0	6800	30	0	30	0	0	0	0	0	0	0	0	0	0	0
Refor.																	
surveys	1000	0	1000	300	50	350	0	0	450	450	1000	0	0	2500	100	2000	5600
site prep	22	0	22	25	0	25	0	0	0	0	0	0	1	0	3	0	4
planting	15	0	15	50	10	60	25	0	10	35	0	0	20	200	3	0	223
brushing	0	0	0	50	50	100	0	0	40	40	0	0	0	300	0	350	650
Total ha	1037	0	1037	425	110	535	25	0	500	525	1000	0	21	3000	106	2350	6477
seed	0	0	0	50	0	50	0	0	0	0	0	0	0	0	3000	0	3000
impeded																	
surveys	17	0	17	900	0	900	500	0	0	500	500	0	0	1100	200	100	1900
brushing	59	0	59	100	0	100	200	0	0	200	500	0	300	0	30	100	930
density sp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total ha	76	0	76	1000	0	1000	700	0	0	700	1000	0	300	1100	230	200	2830
site Restore																	
fill plant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rehab	0	0	0	0	0	0	0	0	40	40	0	0	0	100	0	50	150
Reforestation	0	0	0	0	0	0	0	0	40	40	0	0	0	0	2	0	2
Total ha	0	0	0	0	0	0	0	0	80	80	0	0	0	100	2	50	152
Seed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1600	0	1600
Region																	
surveys	1096	0	1096	1600	50	1650	500	0	450	950	1500	0	0	3600	300	2100	7500
site prep	31	0	31	25	0	25	0	0	40	40	0	0	1	100	3	50	154
planting	22	0	22	80	10	90	25	0	50	75	0	0	20	200	5	0	225
brushing	133	0	133	180	50	230	200	0	70	270	500	0	300	300	30	450	1580
density space	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total ha	1282	0	1282	1885	110	1995	725	0	610	1335	2000	0	321	4200	338	2000	9459
Seed	6800	0	6800	80	0	80	0	0	0	0	0	0	0	0	4800	0	4800

Vancouver Forest Region Backlog Activity Opportunities in Hectares
20010/2002
September 15 1999

Backlog	DCR							DPM							DMC			
hectares	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-Wey	TFL47-TFL	Total ha	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-Wey	TFL47-TFL	Total ha	TSA	TFL25-WFI	TFL39-Wey	Total ha
Legal																		
surveys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
site prep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
planting	0	0	0	0	0	0	0	0	0	70	0	0	0	70	10	0	0	10
brushing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10
max density	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total ha	0	0	0	0	0	0	0	0	0	70	0	0	0	70	20	0	0	20
Seed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3000	0	0	3000
Refor.																		
surveys	0	0	40	0	1175	100	1315	2,150	500	-	-	1,200	100	3,950	0	40	0	40
site prep	0	0	0	0	0	4	4	65	-	-	-	-	5	70	0	0	0	0
planting	0	0	0	0	20	4	24	115	-	-	-	5	5	125	20	0	0	20
brushing	0	0	0	0	80	0	80	-	-	-	-	60	-	60	20	0	0	20
Total ha	0	0	40	0	1275	108	1423	2330	500	0	0	1265	110	4205	40	40	0	80
seed	0	0	0	0	0	4000	4000	42,000	-	-	-	-	5,000	47,000	16000	0	0	16000
impeded																		
surveys	1000	800	70	0	0	800	2670	950	1100	0	500	0	900	3450	539	150	0	689
brushing	100	20	10	0	0	20	150	800	560	75	10	0	10	1445	201	20	0	221
density sp	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
Total ha	1100	820	80	0	0	820	2820	1750	1660	75	510	0	910	4895	740	170	0	910
site Restore																		
fill plant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rehab	0	0	0	0	140	6	146	0	5	0	0	40	0	45	0	0	0	0
Reforestation	0	0	0	0	0	0	0	0	10	0	0	0	0	10	0	0	0	0
Total ha	0	0	0	0	140	6	146	0	15	0	0	40	0	55	0	0	0	0
Seed	0	0	0	0	0	6000	6000	0	4000	0	0	0	0	4000	0	0	0	0
Region																		
surveys	1000	800	110	0	1175	900	3985	3100	1600	0	500	1200	1000	7400	539	190	0	729
site prep	0	0	0	0	140	10	150	65	5	0	0	40	5	115	0	0	0	0
planting	0	0	0	0	20	4	24	115	10	70	0	5	5	205	30	0	0	30
brushing	100	20	10	0	80	20	230	800	560	75	10	60	10	1505	231	20	0	251
density space	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total ha	1100	820	120	0	1415	934	4389	4080	2165	145	510	1305	1020	9225	800	210	0	1010
Seed	0	0	0	0	0	10000	10000	42000	4000	0	0	0	5,000	51000	19000	0	0	19000

Vancouver Forest Region Backlog Activity Opportunities in Hectares
2000/2001
September 20 1999

Backlog	DQC					Ha
hectares	TSA	TFL25-WFP	TFL39-Wey	TFL47-TFL	Total ha	Grand Total
Legal						
surveys	707	0	100	540	1347	1826
site prep	0	0	5	0	5	14
planting	0	0	20	0	20	137
brushing	94	0	0	0	94	238
max density	0	0	0	0	0	0
Total ha	801	0	125	540	1466	2215
Seed	0	0	0	0	0	9830
Refor.						
surveys	0	0	2000	0	2000	14,705
site prep	0	0	0	0	0	125
planting	0	0	50	0	50	552
brushing	0	0	300	0	300	1,250
Total ha	0	0	2350	0	2350	16,632
seed	0	0	0	0	0	70,050
impeded						
surveys	0	100	0	0	100	10226
brushing	0	30	0	0	30	3135
density sp	0	0	0	0	0	0
Total ha	0	130	0	0	130	13361
site Restore						
fill plant	0		0	0	0	0
Rehab	0		0	0	0	381
Reforestation	0		20	0	20	72
Total ha	0	0	20	0	20	453
Seed			0	0	0	11600
Region						
surveys	707	100	2100	540	3447	26757
site prep	0	0	5	0	5	520
planting	0	0	90	0	90	761
brushing	94	30	300	0	424	4623
density space	0	0	0	0	0	0
Total ha	801	130	2495	540	3966	32661
Seed	0	0	0	0	0	91480

Backlog	TSAs	TFLs	Total
hectares	HA	HA	HA
Legal			
surveys	1186	640	1826
site prep	9	5	14
planting	47	90	137
brushing	208	30	238
max density	0	0	0
Total ha	1450	225	1675
Seed	9830	0	9830
	0	0	0
	0	0	0
Refor.			
surveys	4450	10255	14705
site prep	112	13	125
planting	225	327	552
brushing	70	1180	1250
Total ha	4857	11775	16632
seed	58050	12000	70050
impeded			
surveys	4406	5820	10226
brushing	1960	1175	3135
density sp	0	0	0
Total ha	6366	6995	13361
site Restore			
fill plant	0	0	0
Rehab	0	381	381
Reforestation	0	72	72
Total ha	0	453	453
Seed	0	11600	11600
Region			
surveys	10042	16715	26757
site prep	121	399	520
planting	272	489	761
brushing	2238	2385	4623
density space	0	0	0
Total ha	12673	19988	32661
Seed	67880	23600	91480

Appendix 2: Vancouver Forest Region Backlog Activity Opportunities in Hectares
2001/2002
September 15 2000

Backlog hectares	Fraser TSA	Soo TSA	Sunshine Cst TSA	Arrowsmith TSA	Strathcona TSA	Kingcome TSA	Mid Coast TSA	QCI TSA	Total ha TSA
Legal									
surveys	79	400	0	0	0	0	0	707	1186
site prep	9	0	0	0	0	0	0	0	9
planting	7	30	0	0	0	0	10	0	47
brushing	74	30	0	0	0	0	10	94	208
max density	0	0	0	0	0	0	0	0	0
Total ha	169	460	0	0	0	0	20	801	1450
Seed	6800	30	0	0	0	0	3000	0	9830
Refor.									0
surveys	1000	300	0	1000	0	2,150	0	0	4450
site prep	22	25	0	0	0	65	0	0	112
planting	15	50	25	0	0	115	20	0	225
brushing	0	50	0	0	0	-	20	0	70
Total ha	1037	425	25	1000	0	2330	40	0	4857
seed	0	50	0	0	0	42,000	16000	0	58050
									0
									0
									0
impeded									0
surveys	17	900	500	500	1000	950	539	0	4406
brushing	59	100	200	500	100	800	201	0	1960
density sp	0	0	0	0	0		0	0	0
Total ha	76	1000	700	1000	1100	1750	740	0	6366
									0
site Restore									0
fill plant	0	0	0	0	0	0	0	0	0
Rehab	0	0	0	0	0	0	0	0	0
Reforestation	0	0	0	0	0	0	0	0	0
Total ha	0	0	0	0	0	0	0	0	0
Seed	0	0	0	0	0	0	0		0
Region									0
surveys	1096	1600	500	1500	1000	3100	539	707	10042
site prep	31	25	0	0	0	65	0	0	121
planting	22	80	25	0	0	115	30	0	272
brushing	133	180	200	500	100	800	231	94	2238
density space	0	0	0	0	0	0	0	0	0
Total ha	1282	1885	725	2000	1100	4080	800	801	12673
Seed	6800	80	0	0	0	42000	19000	0	67880

Backlog hectares	TFLs CFP	TFLs Mission	TFLS TFL	TFLS IFP	TFLs Wey	TFLs WFP	Total TFL ha	Total ha TSA/TFL
Legal								
surveys	0	0	540	0	100	0	640	1826
site prep	0	0	0	0	5	0	5	14
planting	0	0	0	70	20	0	90	137
brushing	0	0	0	0	30	0	30	238
max density	0	0	0	0	0	0	0	0
Total ha	0	0	0	70	155	0	225	1675
Seed	0	0	0	0	0	0	0	9830
Refor.								
surveys	-	0	300	50	9325	580	10255	14705
site prep	-	0	12	1	0	0	13	125
planting	-	0	12	30	285	0	327	552
brushing	-	0	0	50	1130	0	1180	1250
Total ha	0	0	324	131	10740	580	11775	16632
seed	-	0	12000	0	0	0	12000	70050
impeded								
surveys	500	0	1900	0	1200	2220	5820	10226
brushing	10	0	60	375	100	630	1175	3135
density sp	0	0	0	0	0	0	0	0
Total ha	510	0	1960	375	1300	2850	6995	13361
site Restore								
fill plant	0	0	0	0	0	0	0	0
Rehab	0	0	6	0	370	5	381	381
Reforestation	0	0	2	0	60	10	72	72
Total ha	0	0	8	0	430	15	453	453
Seed	0	0	7600	0	0	4000	11600	11600
Region								
surveys	500	0	2200	50	10625	2800	16175	26217
site prep	0	0	18	1	375	5	399	520
planting	0	0	14	100	365	10	489	761
brushing	10	0	60	425	1260	630	2385	4623
density space	0	0	0	0	0	0	0	0
Total ha	510	0	2292	576	12625	3445	19448	32121
Seed	0	0	19600	0	0	4000	23600	91480

Backlog	TFL 37	TFL 10	TFL 38	TFL45	TFL 54	TFL 26	TFL 46	TFL 47	TFL39	TFL 44	TFL 57	TFL 6	TFL 19	TFL 25	Total ha
hectares	CFP	IFP	IFP	IFP	IFP	Mission	TFL	TFL	Wey	Wey	Wey	WFP	WFP	WFP	TFLs
Legal															
surveys	0	0	0	0	0	0	0	540	100	0	0	0	0	0	640
site prep	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
planting	0	0	0	70	0	0	0	0	20	0	0	0	0	0	90
brushing	0	0	0	0	0	0	0	0	30	0	0	0	0	0	30
max density	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total ha	0	0	0	70	0	0	0	0	155	0	0	0	0	0	225
Seed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
														0	0
Refor.														0	
surveys	-	0	50	0	0	0	100	200	4825	2500	2000	500	0	80	10255
site prep	-	0	0	0	1	0	3	9	0	0	0	-	0	0	13
planting	-	0	10	0	20	0	3	9	85	200	0	-	0	0	327
brushing	-	0	50	0	0	0	0	0	480	300	350	-	0	0	1180
Total ha	0	0	110	0	21	0	106	218	5390	3000	2350	500	0	80	11775
seed	-	0	0	0	0	0	3000	9000	0	0	0	-	0	0	12000
								0	0					0	0
impeded								0	0					0	0
surveys	500	0	0	0	0	0	200	1700	0	1100	100	1100	800	320	5820
brushing	10	0	0	75	300	0	30	30	0	0	100	550	20	60	1175
density sp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total ha	510	0	0	75	300	0	230	1730	0	1100	200	1650	820	380	6995
				0				0	0					0	0
site Restore				0				0	0					0	0
fill plant	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Rehab	0	0	0	0	0		0	6	220	100	50	5	0	0	381
Reforestation	0	0	0	0	0		2	0	60	0	0	10	0	0	72
Total ha	0	0	0	0	0		2	6	280	100	50	15	0	0	453
Seed	0	0	0	0	0		1600	6000	0	0	0	4000	0	0	11600
Region															
surveys	500	0	50	0	0		300	1900	4925	3600	2100	1600	800	400	16175
site prep	0	0	0	0	1		3	15	225	100	50	5	0	0	399
planting	0	0	10	70	20		5	9	165	200	0	10	0	0	489
brushing	10	0	50	75	300		30	30	510	300	450	550	20	60	2385
density space	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Total ha	510	0	110	145	321		338	1954	5825	4200	2600	2165	820	460	19448
Seed	0	0	0	0	0		4800	15000	0	0	0	4000	0	0	23600

Appendix 2: Vancouver Forest Region Enhanced Forestry Opportunities in Hectares
2001/2002
2000/15/09

Enhanced	DCK			DSQ			DSC				DSI						
Forestry	TSA	TFL26-Miss	Total	TSA	TFL38-IFP	Total	TSA	TFL10-IFP	TFL39-Wey	Total	TSA	TFL25-WFP	TFL54-IFP	TFL44-Wey	TFL46-TFL	TFL57-Weyco	Total
Stand Tending																	
Surveys	2000	150	2150	2400	166	2566	1000	0	300	1300	1750	575	0	4000	1500	800	8625
Spacing	540	93	633	1200	65	1265	1200	0	50	1250	350	25	0	0	90	0	465
Pruning	384	36	420	150	50	200	1000	0	15	1015	250	150	0	0	0	0	400
Fertilizing	1500	0	1500	1400	0	1400	800	0	400	1200	1000	400	31	1000	1000	300	3731
other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total ha	4424	279	4703	5150	281	5431	4000	0	765	4765	3350	1150	31	5000	2590	1100	13221
Forest Health																	
Spacing	0	0	0	0	0	0	40	0	20	60	0	0	0	0	0	0	0
Pruning	0	0	0	0	0	0	30	0	0	30	150	0	0	50	0	0	200
Other	0	0	0		0	0	190	0	0	190	0	0	0	0	0	0	0
Total ha	0	0	0	0	0	0	260	0	20	280	150	0	0	50	0	0	200
Habitat Supply																	
Riparian	0	0	0	0	0	0	10	0	10	20	0	0	0	0	0	0	0
Non Riparian	0	0	0	14	0	14	20	0	0	20	0	0	0	0	10	0	10
Total ha	0	0	0	14	0	14	30	0	10	40	0	0	0	0	10	0	10
Range																	
treatments	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Enhanced MU																	
Total																	
Surveys	2000	150	2150	2400	166	2566	1000	0	300	1300	1750	575	0	4000	1500	800	8625
Spacing	540	93	633	1200	65	1265	1240	0	70	1310	350	25	0	0	90	0	465
Pruning	384	36	420	150	50	200	1030	0	15	1045	400	150	0	50	0	0	600
Fertilizing	1500	0	1500	1400	0	1400	800	0	400	1200	1000	400	31	1000	1000	300	3731
other	0	0	0	14	0	14	220	0	10	230	0	0	0	0	10	0	10
Total ha	4424	279	4703	5164	281	5445	4290	0	795	5085	3500	1150	31	5050	2600	1100	13431

Appendix 2: Vancouver Forest Region Enhanced Forestry Opportunities in Hectares
2001/2002

2000/15/09

Enhanced	DCR							DPM						
Forestry	TSA	TFL19-WFP	TFL25-WFF	TFL45-IFP	TFL39-Wey	TFL47-TFL	Total	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-Wey	TFL47-TFL	Total
Stand Tending														
Surveys	3000	850	350	75	3200	500	7975	1075	1500	600	60	1000	120	4355
Spacing	500	170	20	0	185	50	925	200	250	0	10	80	100	640
Pruning	250	172	30	50	50	0	552	175	450	0	60	20	0	705
Fertilizing	1500	900	300	50	2500	600	5850	700	800	500	3100	600	50	5750
other	0	0	0	0	0	0	0	0	0	0	0	10	88	98
Total ha	5250	2092	700	175	5935	1150	15302	2150	3000	1100	3230	1710	358	11548
Forest Health														
Spacing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pruning	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total ha	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Habitat Supply														
Riparian	0	0	0	0	0	0	0	0	30	0	0	0	0	30
Non Riparian	50	0	0	0	0	0	50	0	20	0	0	0	20	40
Total ha	50	0	0	0	0	0	50	0	50	0	0	0	20	70
Range														
treatments	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Enhanced MU														
Total														
Surveys	3000	850	350	75	3200	500	7975	1075	1500	600	60	1000	120	4355
Spacing	500	170	20	0	185	50	925	200	250	0	10	80	100	640
Pruning	250	172	30	50	50	0	552	175	450	0	60	20	0	705
Fertilizing	1500	900	300	50	2500	600	5850	700	800	500	3100	600	50	5750
other	50	0	0	0	0	0	50	0	50	0	0	10	108	168
Total ha	5300	2092	700	175	5935	1150	15352	2150	3050	1100	3230	1710	378	11618

Appendix 2: Vancouver Forest Region Enhanced Forestry Opportunities in Hectares
2001/2002
2000/15/09

Enhanced	DMC				DQC					Grand
Forestry	TSA	TFL25-WFP	TFL39-Wey	Total	TSA	TFL25-WF	TFL39-We	TFL47-TFL	Total	Total HA
Stand Tending										
Surveys	215	0	60	275	375	1250	300	0	1925	29171
Spacing	150	0	20	170	336	50	100	0	486	5834
Pruning	140	0	10	150	38	50	0	0	88	3530
Fertilizing	0	0	0	0	0	950	100	0	1050	20481
other	0	0	0	0	0	0	0	0	0	98
Total ha	505	0	90	595	749	2300	500	0	3549	59114
Forest Health										
Spacing	0	0	0	0	0	0	0	0	0	60
Pruning	0	0	0	0	0	0	0	0	0	230
Other	0	0	0	0	0	0	500	0	500	690
Total ha	0	0	0	0	0	0	500	0	500	980
Habitat Supply										
Riparian	0	0	10	10	40	0	0	0	40	100
Non Riparian	0	0	0	0	0	0	0	0	0	134
Total ha	0	0	10	10	40	0	0	0	40	234
Range										
treatments	0	0	0	0	0	0	0	0	0	0
Enhanced MU										
Total										
Surveys	215	0	60	275	375	1250	300	0	1925	29171
Spacing	150	0	20	170	336	50	100	0	486	5894
Pruning	140	0	10	150	38	50	0	0	88	3760
Fertilizing	0	0	0	0	0	950	100	0	1050	20481
other	0	0	10	10	40	0	500	0	540	1022
Total ha	505	0	100	605	789	2300	1000	0	4089	60328

Enhanced	TSAs	TFLs	Total
Forestry	HA	HA	HA
Stand Tending			
Surveys	11815	17356	29171
Spacing	4476	1358	5834
Pruning	2387	1143	3530
Fertilizing	6900	13581	20481
other	0	98	98
Total ha	25578	33536	59114
Forest Health			
Spacing	40	20	60
Pruning	180	50	230
Other	190	500	690
Total ha	410	570	980
Habitat Supply			
Riparian	50	50	100
Non Riparian	84	50	134
Total ha	134	100	234
Range			
treatments	0	0	0
Enhanced MU			
Total			
Surveys	11815	17356	29171
Spacing	4516	1378	5894
Pruning	2567	1193	3760
Fertilizing	6900	13581	20481
other	324	698	1022
Total ha	26122	34206	60328

Appendix 2: Vancouver Forest Region Enhanced Forestry Opportunities in Hectares
2001/2002
2000/15/09

Enhanced Forestry	Fraser TSA	Soo TSA	Sunshine Cst TSA	Arrowsmith TSA	Strathcona TSA	Kingcome TSA	Mid Coast TSA	QCI TSA	Total ha TSA
Stand Tending									
Surveys	2000	2400	1000	1750	3000	1075	215	375	11815
Spacing	540	1200	1200	350	500	200	150	336	4476
Pruning	384	150	1000	250	250	175	140	38	2387
Fertilizing	1500	1400	800	1000	1500	700	0	0	6900
other	0	0	0	0	0	0	0	0	0
Total ha	4424	5150	4000	3350	5250	2150	505	749	25578
									0
Forest Health									0
Spacing	0	0	40	0	0	0	0	0	40
Pruning	0	0	30	150	0	0	0	0	180
Other	0		190	0	0	0	0	0	190
Total ha	0	0	260	150	0	0	0	0	410
									0
Habitat Supply									0
Riparian	0	0	10	0	0	0	0	40	50
Non Riparian	0	14	20	0	50	0	0	0	84
Total ha	0	14	30	0	50	0	0	40	134
									0
Range									0
treatments	0	0	0		0	0	0	0	0
									0
Enhanced MU									0
Total									0
Surveys	2000	2400	1000	1750	3000	1075	215	375	11815
Spacing	540	1200	1240	350	500	200	150	336	4516
Pruning	384	150	1030	400	250	175	140	38	2567
Fertilizing	1500	1400	800	1000	1500	700	0	0	6900
other	0	14	220	0	50	0	0	40	324
Total ha	4424	5164	4290	3500	5300	2150	505	789	26122

Enhanced Forestry	TFLs CFP	TFLs Mission	TFLS TFL	TFLS IFP	TFLs Wey	TFLs WFP	Total ha	Total ha TSA/TFL
Stand Tending								
Surveys	60	150	2120	841	9660	4525	17356	29171
Spacing	10	93	240	65	435	515	1358	5834
Pruning	60	36	0	100	95	852	1143	3530
Fertilizing	3100	0	1650	581	4900	3350	13581	20481
other	0	0	88	0	10	0	98	98
Total ha	3230	279	4098	1587	15100	9242	33536	59114
Forest Health								
Spacing	0	0	0	0	20	0	20	60
Pruning	0	0	0	0	50	0	50	230
Other	0	0	0	0	500	0	500	690
Total ha	0	0	0	0	570	0	570	980
Habitat Supply								
Riparian	0	0	0	0	20	30	50	100
Non Riparian	0	0	30	0	0	20	50	134
Total ha	0	0	30	0	20	50	100	234
Range								
treatments	0	0	0	0	0	0	0	0
Enhanced MU								
Total								
Surveys	60	150	2120	841	9660	4525	17356	29171
Spacing	10	93	240	65	455	515	1378	5894
Pruning	60	36	0	100	145	852	1193	3760
Fertilizing	3100	0	1650	581	4900	3350	13581	20481
other	0	0	118	0	530	50	698	1022
Total ha	3230	279	4128	1587	15690	9292	34206	60328

Appendix 2: Vancouver Forest Region Enhanced Forestry Opportunities in Hectares
2001/2002
2000/15/09

Enhanced Forestry	TFL 37 CFP	TFL 10 IFP	TFL 38 IFP	TFL45 IFP	TFL 54 IFP	TFL 26 Mission	TFL 46 TFL	TFL 47 TFL	TFL39 Wey	TFL 44 Wey	TFL 57 Wey	TFL 6 WFP	TFL 19 WFP	TFL 25 WFP	Total ha TFLs
Stand Tending															
Surveys	60	0	166	675	0	150	1500	620	4860	4000	800	1500	850	2175	17356
Spacing	10	0	65	0	0	93	90	150	435	0	0	250	170	95	1358
Pruning	60	0	50	50	0	36	0	0	95	0	0	450	172	230	1143
Fertilizing	3100	0	0	550	31	0	1000	650	3600	1000	300	800	900	1650	13581
other	0	0	0	0	0	0	0	88	10	0	0	0	0	0	98
Total ha	3230	0	281	1275	31	279	2590	1508	9000	5000	1100	3000	2092	4150	33536
				0				0	0					0	0
Forest Health				0				0	0					0	0
Spacing	0	0	0	0	0	0	0	0	20	0	0	0	0	0	20
Pruning	0	0	0	0	0	0	0	0	0	50	0	0	0	0	50
Other	0	0	0	0	0	0	0	0	500	0	0	0	0	0	500
Total ha	0	0	0	0	0	0	0	0	520	50	0	0	0	0	570
				0				0	0					0	0
Habitat Supply				0				0	0					0	0
Riparian	0	0	0	0	0	0	0	0	20	0	0	30	0	0	50
Non Riparian	0	0	0	0	0	0	10	20	0	0	0	20	0	0	50
Total ha	0	0	0	0	0	0	10	20	20	0	0	50	0	0	100
				0				0	0					0	0
Range				0				0	0					0	0
treatments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				0				0	0					0	0
Enhanced MU				0				0	0					0	0
Total				0				0	0					0	0
Surveys	60	0	166	675	0	150	1500	620	4860	4000	800	1500	850	2175	17356
Spacing	10	0	65	0	0	93	90	150	455	0	0	250	170	95	1378
Pruning	60	0	50	50	0	36	0	0	95	50	0	450	172	230	1193
Fertilizing	3100	0	0	550	31	0	1000	650	3600	1000	300	800	900	1650	13581
other	0	0	0	0	0	0	10	108	530	0	0	50	0	0	698
Total ha	3230	0	281	1275	31	279	2600	1528	9540	5050	1100	3050	2092	4150	34206

Appendix 3: Vancouver Forest Region Backlog Activity Opportunities in dollars
2001/2002
2000/15/09

Backlog	DCK				DSQ				DSC				
$$$	TSA	TFL26-Mis	$ Total	Priority	TSA	TFL38-IFP	$ Total	Priority	TSA	TFL10-IFP	TFL39-Wey	$ Total	Priority
Legal													
surveys	2367	0	2367	1,n	20000	0	20000	1	0	0	0	0	n,n,n
site prep	6880	0	6880	1,n	0	0	0	n,n	0	0	0	0	n,n,n
planting	5100	0	5100	1,n	36000	0	36000	1	0	0	0	0	n,n,n
brushing	51800	0	51800	1,n	37500	0	37500	1	0	0	30000	30000	n,n,1
max density	0	0	0		0	0	0	n,n	0	0	0	0	n,n,n
Total $	66147	0	66147		93500	0	93500		0	0	30000	30000	
Seed	2100	0	2100	1,n	300	0	300	1	0	0	0	0	n,n,n
Total legal$	68247	0	68247		93800	0	93800		0	0	30000	30000	
Refor.													
surveys	30000	0	30000	2,n	18000	2250	20250	1,3	0	0	11250	11250	n,n,1
site prep	17600	0	17600	2,n	17500	0	17500	1,n	0	0	0	0	n,n,n
planting	11200	0	11200	2,n	60000	7000	67000	1,1	30000	0	11000	41000	1,n,1
brushing	0	0	0	n,n	62500	85000	147500	1,1	0	0	40000	40000	n,n,1
Total $	58800	0	58800		158000	94250	252250		30000	0	62250	92250	n,n,n
seed	0	0	0	n,n	500	0	500	1,n	0	0	0	0	
presc/plan	11500	0	11500	2,n	0	0	0	n,n	0	0	9000	9000	n,n,1
Total refor $	70300	0	70300		158500	94250	252750		30000	0	71250	101250	
impeded													
surveys	510	0	510	2,n	63000	0	63000	1,n	37500	0	0	37500	1,n,n
brushing	44175	0	44175	2,n	125000	0	125000	1,n	360000	0	0	360000	1,n,n
density space	0	0	0	n,n	0	0	0	n,n	0	0	0	0	n,n,n
Total $	44685	0	44685		188000	0	188000		397500	0	0	397500	
presc/plan	0	0	0	n,n	0	0	0	n,n	0	0	0	0	n,n,n
Total imped $	44685	0	44685		188000	0	188000		397500	0	0	397500	
site restoration													
fill plant	0	0	0	n,n	0	0	0	n,n	0	0	0	0	n,n,n
rehab	0	0	0	n,n	0	0	0	n,n	0	0	120000	120000	n,n,1
reforestation	0	0	0	n,n	0	0	0	n,n	0	0	44000	44000	n,n,1
Total $	0	0	0		0	0	0		0	0	164000	164000	
seed	0	0	0	n,n	0	0	0	n,n	0	0	0	0	n,n,n
presc/plan	0	0	0	n,n	0	0	0	n,n	0	0	0	0	n,n,n
Tot site restore $	0	0	0		0	0	0		0	0	164000	164000	

Backlog MU	DCK				DSQ				DSC				
Totals	TSA	TFL26-Mis	Total		TSA	TFL38-IFP	Total		TSA	TFL10-IFP	TFL39-Wey	Total	
Region													
surveys	32877	0	32877		101000	2250	103250		37500	0	11250	48750	
site prep	24480	0	24480		17500	0	17500		0	0	120000	120000	
planting	16300	0	16300		96000	7000	103000		30000	0	55000	85000	
brushing	95975	0	95975		225000	85000	310000		360000	0	70000	430000	
density space	0	0	0		0	0	0		0	0	0	0	
Total $$	169632	0	169632		439500	94250	533750		427500	0	256250	683750	
seed	2100	0	2100		800	0	800		0	0	0	0	
presc/plan	11500	0	11500		0	0	0		0	0	9000	9000	
studies	0	0	0		0	0	0		25000	0	25000	50000	1,n,1
Total BL $	183232	0	183232		440300	94250	534550		452500	0	290250	742750	

Vancouver Forest Region Backlog Activity Opportunities in dollars
2001/2002
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Backlog	DSI								DCR							
$$$	TSA	TFL25-WFI	TFL54-IFP	TFL44-Wey	TFL46-TFL	TFL57-Wey	$ Total	Priority	TSA	TFL19-WFI	TFL25-WFI	TFL45-IFP	TFL39-Wey	TFL47-TFL	$ Total	Priority
Legal																
surveys	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
site prep	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
planting	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
brushing	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
max density	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Total $	0	0	0	0	0	0	0		0	0	0	0	0	0	0	
Seed	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0		0	n,n,n,n,n,n
Total legal$	0	0	0	0	0	0	0		0	0	0	0	0	0	0	
Refor.																
surveys	25000	0	0	62500	3000	50000	140500	2,n,n,1,2,1	0	0	1000	0	44375	3000	48375	1,n,n,n,1,2
site prep	0	0	1000	0	2400	0	3400	n,n,1,n,2,n	0	0	0	0	0	3000	3000	n,n,n,n,n,2
planting	0	0	20000	297000	3000	0	320000	n,n,1,n,2,n	0	0	0	0	46000	4000	50000	n,n,n,n,2,2
brushing	0	0	0	396000	0	462000	858000	n,n,n,1,n,1	0	0	0	0	80000	0	80000	n,n,n,n,1,n
Total $	25000	0	21000	755500	8400	512000	1321900		0	0	1000	0	170375	10000	181375	
seed	0	0	0	0	2000	0	2000	n,n,n,n,2,n	0	0	0	0	0	2500	2500	n,n,n,n,n,2
presc/plan	0	0	0	50400	1200	33600	85200	n,n,n,1,2,1	0	0	0	0	0	1200	1200	n,n,n,n,n,2
Total refor $	25000	0	21000	805900	11600	545600	1409100		0	0	1000	0	170375	13700	185075	
impeded																
surveys	12500	0	0	27500	6000	2500	48500	2,n,n,2,1,2	35000	28000	3850	0	0	24000	90850	1,1,n,n,n,1
brushing	450000	0	405000	0	42000	132000	1029000	1,n,1,n,1,2	200000	17000	8000	0	0	30000	255000	2,1,n,n,n,1
density space	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Total $	462500	0	405000	27500	48000	134500	1077500		235000	45000	11850	0	0	54000	345850	
presc/plan	25000	0	5000	4800	2000	9600	46400	1,n,1,2,1,2	5000	0	1150	0	0	2000	8150	1,n,n,n,n,1
Total imped $	487500	0	410000	32300	50000	144100	1123900		240000	45000	13000	0	0	56000	354000	
site restoration																
fill plant	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
rehab	0	0	0	286000	0	143000	429000	n,n,n,1,n,1	0	0	0	0	399000	20000	419000	n,n,n,n,1,2
reforestation	0	0	0	0	2500	0	2500	n,n,n,n,1,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Total $	0	0	0	286000	2500	143000	431500		0	0	0	0	399000	20000	419000	
seed	0	0	0	0	1000	0	1000	n,n,n,n,1,n	0	0	0	0	0	3000	3000	n,n,n,n,n,1
presc/plan	0	0	0	26000	1500	13000	40500	n,n,n,1,1,1	0	0	0	0	0	2500	2500	n,n,n,n,n,1
Tot site restore $	0	0	0	312000	5000	156000	473000		0	0	0	0	399000	25500	424500	

Backlog	DSI								DCR							
Totals	TSA	TFL25-WF	TFL54-IFP	TFL44-Wey	TFL46-TFI	TFL57-Wey	Total		TSA	TFL19-WF	TFL25-WF	TFL45-IFP	TFL39-Wey	TFL47-TFI	Total	
Region																
surveys	37500	0	0	90000	9000	52500	189000		35000	28000	4850	0	44375	27000	139225	
site prep	0	0	1000	286000	2400	143000	432400		0	0	0	0	399000	23000	422000	
planting	0	0	20000	297000	5500	0	322500		0	0	0	0	46000	4000	50000	
brushing	450000	0	405000	396000	42000	594000	1887000		200000	17000	8000	0	80000	30000	335000	
density space	0	0	0	0	0	0	0		0	0	0	0	0	0	0	
Total $$	487500	0	426000	1069000	58900	789500	2830900		235000	45000	12850	0	569375	84000	946225	
seed	0	0	0	0	3000	0	3000		0	0	0	0	0	5500	5500	
presc/plan	25000	0	5000	81200	4700	56200	172100		5000	0	1150	0	0	5700	11850	
studies	0	0	0	0	0	0	0		0	0	0	0	0	0	0	
Total BL $	512500	0	431000	1150200	66600	845700	3006000		240000	45000	14000	0	569375	95200	963575	

Vancouver Forest Region Backlog Activity Opportunities in dollars
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Backlog	DPM								DMC				
$$$	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-Wey	TFL47-TFL	$ Total	Priority	TSA	TFL25-WFI	TFL39-Wey	$ Total	Priority
Legal													
surveys	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	n,n,n
site prep	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	n,n,n
planting	0	0	98000	0	0	0	98000	n,n,1,n,n,n	2000	0	0	2000	1,n,n
brushing	0	0	0	0	0	0	0	n,n,n,n,n,n	15000	0	0	15000	1,n,n
max density	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	n,n,n
Total $	0	0	98000	0	0	0	98000		17000	0	0	17000	
Seed	0	0	0	0	0	0	0	n,n,n,n,n,n	2000	0	0	2000	1,n,n
Total legal$	0	0	98000	0	0	0	98000		19000	0	0	19000	
Refor.													
surveys	46875	12500	0	0	48000	3000	110375	1,1,n,n,1,2	0	1000	0	1000	n,n,n
site prep	65000	0	0	0	0	4000	69000	1,n,n,n,n,2	0	0	0	0	n,n,n
planting	314250	0	0	0	5000	6000	325250	1,n,n,n,2,2	4000	0	0	4000	1,n,n
brushing	0	0	0	0	60000	0	60000	n,n,n,n,1,n	30000	0	0	30000	1,n,n
Total $	426125	12500	0	0	113000	13000	564625		34000	1000	0	35000	
seed	15000	0	0	0	0	3000	18000	1,n,n,n,n,2	4000	0	0	4000	n,n,n
presc/plan	5000	0	0	0	0	1500	6500	1,n,n,n,n,2	2000	0	0	2000	n,n,n
Total refor $	446125	12500	0	0	113000	17500	589125		40000	1000	0	41000	
impeded													
surveys	43750	27500	0	11000	0	24000	106250	1,1,1,2,n,1	28000	11250	0	39250	2,1,n
brushing	760000	330000	112500	6000	0	15000	1223500	1,1,1,1,n,1	345000	36000	0	381000	1,1,n
density space	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	n,n,n
Total $	803750	357500	112500	17000	0	39000	1329750		373000	47250	0	420250	
presc/plan	28000	22000	10000	0		1500	61500	1,1,1,n,n,1	750	7500	0	8250	1,1,n
Total imped $	831750	379500	122500	17000	0	40500	1391250		373750	54750	0	428500	
site restoration													
fill plant	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	n,n,n
rehab	0	37500	0	0	120000	0	157500	n,1,n,n,1,n	0	0	0	0	n,n,n
reforestation	0	30000	0	0	0	0	30000	n,1,n,n,n,n	0	0	0	0	n,n,n
Total $	0	67500	0	0	120000	0	187500		0	0	0	0	
seed	0	80	0	0	0	0	80	n,n,n,n,n,n	0	0	0	0	n,n,n
presc/plan	0	1000	0	0	0	0	1000	n,1,n,n,n,n	0	0	0	0	n,n,n
Tot site restore $	0	68580	0	0	120000	0	188580		0	0	0	0	

Backlog	DPM								DMC			
Totals	TSA	TFL6-WFF	TFL45-IFP	TFL37-CFP	TFL39-Wey	TFL47-TFI	Total		TSA	TFL25-WF	TFL39--Wey	Total
Region												
surveys	90625	40000	0	11000	48000	27000	216625		28000	12250	0	40250
site prep	65000	37500	0	0	120000	4000	226500		0	0	0	0
planting	314250	30000	98000	0	5000	6000	453250		6000	0	0	6000
brushing	760000	330000	112500	6000	60000	15000	1283500		390000	36000	0	426000
density space	0	0	0	0	0	0	0		0	0	0	0
Total $$	1229875	437500	210500	17000	233000	52000	2179875		424000	48250	0	472250
seed	15000	80	0	0	0	3000	18080		6000	0	0	6000
presc/plan	33000	23000	10000	0	0	3000	69000		2750	7500	0	10250
studies	32000	0	0	0	0	0	32000	1,n,n,n,n,n	0	0		0
Total BL $	1309875	460580	220500	17000	233000	58000	2298955		432750	55750	0	488500

Vancouver Forest Region Backlog Activity Opportunities in dollars
2001/2002
15 September, 2000

Backlog	DQC						$
$$$	TSA	TFL25-WFI	TFL39-Wey	TFL47-TFL	$ Total	Priority	Grand Total
Legal							
surveys	35350	0	2500	10000	47850	1,n,1,1	70217
site prep	0	0	5000	0	5000	n,n,1,n	11880
planting	0	0	12000	0	12000	n,n,1,n	153100
brushing	141000	0	0	0	141000	1,n,n,n	275300
max density	0	0	0	0	0	n,n,n,n	0
Total $	176350	0	19500	10000	205850		510497
Seed	0	0	0	0	0	n,n,n,n	4400
Total legal$	176350	0	19500	10000	205850		514897
Refor.							
surveys	0	0	20000	0	20000	n,n,1,n	381750
site prep	0	0	0	0	0	n,n,n,n	110500
planting	0	0	100000	0	100000	n,n,1,n	918450
brushing	0	0	360000	0	360000	n,n,1,n	1575500
Total $	0	0	480000	0	480000		2986200
seed	0	0	0	0	0	n,n,n,n	27000
presc/plan	0	0	16000	0	16000	n,n,1,n	131400
Total refor $	0	0	496000	0	496000		3144600
impeded							
surveys	0	5000	0	0	5000	n,1,n,n	390860
brushing	0	60000	0	0	60000	n,1,n,n	3477675
density space	0	0	0	0	0	n,n,n,n	0
Total $	0	65000	0	0	65000		3868535
presc/plan	0	3250	0	0	3250	n,1,n,n	127550
Total imped $	0	68250	0	0	68250		3996085
site restoration							
fill plant	0	0	0	0	0	n,n,n,n	0
rehab	0	0	0	0	0	n,n,n,n	1125500
reforestation	0	0	24000	0	24000	n,n,2,n	100500
Total $	0	0	24000	0	24000		1226000
seed	0	0	0	0	0	n,n,n,n	4080
presc/plan	0	0	0	0	0	n,n,n,n	44000
Tot site restore $	0	0	24000	0	24000		1274080

Backlog	DQC						$
Totals	TSA	TFL25-WF	TFL39-Wey	TFL47-TFl	Total		Grand Total
Region							
surveys	35350	5000	22500	10000	72850		842827
site prep	0	0	5000	0	5000		1247880
planting	0	0	136000	0	136000		1172050
brushing	141000	60000	360000	0	561000		5328475
density space	0	0	0	0	0		0
Total $$	176350	65000	523500	10000	774850		8591232
seed	0	0	0	0	0		35480
presc/plan	0	3250	16000	0	19250		302950
studies	0		20000	0	20000		102000
Total BL $	176350	68250	559500	10000	814100		9031662

Backlog	$	$	$	
$$$	TSAs	TFLs	Total	
Legal				
surveys	57717	12500	70217	
site prep	6880	5000	11880	
planting	43100	110000	153100	
brushing	245300	30000	275300	
max density	0	0	0	
Total $	352997	157500	510497	
Seed	4400	0	4400	
Total legal$	357397	157500	514897	
Refor.				
surveys	119875	261875	381750	
site prep	100100	10400	110500	
planting	419450	499000	918450	X
brushing	92500	1483000	1575500	
Total $	731925	2254275	2986200	
seed	19500	7500	27000	
presc/plan	18500	112900	131400	
Total refor $	769925	2374675	3144600	
impeded		0		
surveys	220260	170600	390860	
brushing	2284175	1193500	3477675	X
density space	0	0	0	
Total $	2504435	1364100	3868535	
presc/plan	58750	68800	127550	
Total imped $	2563185	1432900	3996085	
site restoration		0		
fill plant	0	0	0	
rehab	0	1125500	1125500	
reforestation	0	100500	100500	
Total $	0	1226000	1226000	
seed	0	4080	4080	
presc/plan	0	44000	44000	
Tot site restore $	0	1274080	1274080	

Backlog	$	$	$
Totals	TSAs	TFLs	Total
Region			
surveys	397852	444975	842827
site prep	106980	1140900	1247880
planting	462550	709500	1172050
brushing	2621975	2706500	5328475
density space	0	0	0
Total $$	3589357	5001875	8591232
seed	23900	11580	35480
presc/plan	77250	225700	302950
studies	57000	45000	102000
Total BL $	3747507	5284155	9031662

Vancouver Forest Region Backlog Activity Opportunities in dollars
2001/2002
2000/15/09

Backlog	Fraser		Soo		Sunshine Cst		Arrowsmith		Strathcona		Kingcome		Mid Coast		QCI		Total
$$$	TSA	p	TSA	p	TSA	p	TSA	p	TSA	p	TSA	p	TSA	p	TSA	p	TSA
Legal																	
surveys	2367	1	20000	1	0		0		0		0		0		35350	1	57717
site prep	6880	1	0		0		0		0		0		0		0		6880
planting	5100	1	36000	1	0		0		0		0		2000	1	0		43100
brushing	51800	1	37500	1	0		0		0		0		15000	1	141000	1	245300
max density	0		0		0		0		0		0		0		0		0
Total $	66147		93500		0		0		0		0		17000		176350		352997
Seed	2100	1	300	1	0		0		0		0		2000	1	0		4400
Total legal$	68247		93800		0		0		0		0		19000		176350		357397
Refor.																	
surveys	30000	2	18000	1	0		25000	1	0		46875	1	0		0		119875
site prep	17600	2	17500	1	0		0		0		65000	1	0		0		100100
planting	11200	2	60000	1	30000	1	0		0		314250	1	4000	1	0		419450
brushing	0		62500	1	0		0		0		0		30000	1	0		92500
Total $	58800		158000		30000		25000		0		426125		34000		0		731925
seed	0		500	1	0		0		0		15000	1	4000	1	0		19500
presc/plan	11500	2	0		0		0		0		5000	1	2000	1	0		18500
Total refor $	70300		158500		30000		25000		0		446125		40000		0		769925
impeded																	
surveys	510	2	63000	1	37500	1	12500	2	35000	1	43750	1	28000	1	0		220260
brushing	44175	2	125000	1	360000		450000	1	200000	2	760000	1	345000	1	0		2284175
density space	0		0		0		0		0		0		0		0		0
Total $	44685		188000		397500		462500		235000		803750		373000		0		2504435
presc/plan	0		0		0		25000	1	5000	1	28000	1	750	1	0		58750
Total imped $	44685		188000		397500		487500		240000		831750		373750		0		2563185
site restoration																	
fill plant	0		0		0		0		0		0		0		0		0
rehab	0		0		0		0		0		0		0		0		0
reforestation	0		0		0		0		0		0		0		0		0
Total $	0		0		0		0		0		0		0		0		0
seed	0		0		0		0		0		0		0		0		0
presc/plan	0		0		0		0		0		0		0		0		0
Tot site restore	0		0		0		0		0		0		0		0		0

Backlog	Fraser		Sunshine Cst		Arrowsmith	Strathcona	Kingcome		Mid Coast	QCI	Total
Totals	TSA	TSA	TSA		TSA	TSA	TSA		TSA	TSA	TSA
Region											0
surveys	32877	101000	37500		37500	35000	90625		28000	35350	397852
site prep	24480	17500	0		0	0	65000		0	0	106980
planting	16300	96000	30000		0	0	314250		6000	0	462550
brushing	95975	225000	360000		450000	200000	760000		390000	141000	2621975
density space	0	0	0		0	0	0		0	0	0
Total $$	169632	439500	427500		487500	235000	1229875		424000	176350	3589357
seed	2100	800	0		0	0	15000		6000	0	23900
presc/plan	11500	0	0		25000	5000	33000		2750	0	77250
studies	0	0	25000	1	0	0	32000	1	0		57000
Total BL $	183232	440300	452500		512500	240000	1309875		432750	176350	3747507

Backlog	TFLs	TFLs	TFLS	TFLS	TFLs	TFLs	Total	Total $$
$$$	CFP	Mission	TFL	IFP	Wey	WFP	$	TSA/TFL
Legal								
surveys	0	0	10000	0	2500	0	12500	70217
site prep	0	0	0	0	5000	0	5000	11880
planting	0	0	0	98000	12000	0	110000	153100
brushing	0	0	0	0	30000	0	30000	275300
max density	0	0	0	0	0	0	0	0
Total $	0	0	10000	98000	49500	0	157500	510497
Seed	0	0	0	0	0	0	0	4400
Total legal$	0	0	10000	98000	49500	0	157500	514897
Refor.								
surveys	0	0	9000	2250	236125	14500	261875	381750
site prep	0	0	9400	1000	0	0	10400	110500
planting	0	0	13000	27000	459000	0	499000	918450
brushing	0	0	0	85000	1398000	0	1483000	1575500
Total $	0	0	31400	115250	2093125	14500	2254275	2986200
seed	0	0	7500	0	0	0	7500	27000
presc/plan	0	0	3900	0	109000	0	112900	131400
Total refor $	0	0	42800	115250	2202125	14500	2374675	3144600
impeded								
surveys	11000	0	54000	0	30000	75600	170600	390860
brushing	6000	0	87000	517500	132000	451000	1193500	3477675
density space	0	0	0	0	0	0	0	0
Total $	17000	0	141000	517500	162000	526600	1364100	3868535
presc/plan	0	0	5500	15000	14400	33900	68800	127550
Total imped $	17000	0	146500	532500	176400	560500	1432900	3996085
site restoration								
fill plant	0	0	0	0	0	0	0	0
rehab	0	0	20000	0	1068000	37500	1125500	1125500
reforestation	0	0	2500	0	68000	30000	100500	100500
Total $	0	0	22500	0	1136000	67500	1226000	1226000
seed	0	0	4000	0	0	80	4080	4080
presc/plan	0	0	4000	0	39000	1000	44000	44000
Tot site restore $	0	0	30500	0	1175000	68580	1274080	1274080

Backlog	TFLs	TFLs	TFLS	TFLS	TFLs	TFLs	Total	Total HA
Totals	CFP	Mission	TFL	IFP	Wey	WFP	Ha	TSA/TFL
Region								
surveys	11000	0	73000	2250	268625	90100	444975	842827
site prep	0	0	29400	1000	1073000	37500	1140900	1247880
planting	0	0	15500	125000	539000	30000	709500	1172050
brushing	6000	0	87000	602500	1560000	451000	2706500	5328475
density space	0	0	0	0	0	0	0	0
Total $$	17000	0	204900	730750	3440625	608600	5001875	8591232
seed	0	0	11500	0	0	80	11580	35480
presc/plan	0	0	13400	15000	162400	34900	225700	302950
studies	0	0	0	0	45000	0	45000	102000
Total BL $	17000	0	229800	745750	3648025	643580	5284155	9031662

Vancouver Forest Region Backlog Activity Opportunities in dollars
2001/2002
15 September, 2000

Backlog $$$	TFL 37 CFP	p	TFL 10 IFP	p	TFL 38 IFP	p	TFL45 IFP	p	TFL 54 IFP	p	TFL 26 Mission	p	TFL 46 TFL	p	TFL 47 TFL	p	TFL39 Wey	p	TFL 44 Wey	p	TFL 57 Wey	p	TFL 6 WFP	p	TFL 19 WFP	p	TFL 25 WFP	p	Total $$ TFLs
Legal																													
surveys	0		0		0		0		0		0		0		10000	1	2500	1	0		0		0		0		0		12500
site prep	0		0		0		0		0		0		0		0		5000	1	0		0		0		0		0		5000
planting	0		0		0		98000	1	0		0		0		0		12000	1	0		0		0		0		0		110000
brushing	0		0		0		0		0		0		0		0		30000	1	0		0		0		0		0		30000
max density	0		0		0		0		0		0		0		0		0		0		0		0		0		0		0
Total $	0		0		0		98000		0		0		0		10000		49500		0		0		0		0		0		157500
Seed	0		0		0		0		0		0		0		0		0		0		0		0		0		0		0
Total legal$	0		0		0		98000		0		0		0		10000		49500		0		0		0		0		0		157500
Refor.																													
surveys	0		0		2250	3	0		0		0		3000	2	6000	2	123625	1	62500	1	50000	1	12500	1	0		2000	1	261875
site prep	0		0		0		0		1000	1	0		2400	2	7000	2	0		0		0		0		0		0		10400
planting	0		0		7000	1	0		20000	1	0		3000	2	10000	2	162000	2	297000	2	0		0		0		0		499000
brushing	0		0		85000	1	0		0		0		0		0		540000	1	396000	1	462000	1	0		0		0		1483000
Total $	0		0		94250		0		21000		0		8400		23000		825625		755500		512000		12500		0		2000		2254275
seed	0		0		0		0		0		0		2000	2	5500	2	0		0		0		0		0		0		7500
presc/plan	0		0		0		0		0		0		1200	2	2700	2	25000	1	50400	1	33600	1	0		0		0		112900
Total refor $	0		0		94250		0		21000		0		11600		31200		850625		805900		545600		12500		0		2000		2374675
impeded																													
surveys	11000		0		0		0		0		0		6000	1	48000	1	0		27500	2	2500	2	27500	1	28000	1	20100	1	170600
brushing	6000		0		0		112500	1	405000	1	0		42000	1	45000	1	0		0		132000	2	330000	1	17000	1	104000	1	1193500
density space	0		0		0		0		0		0		0		0		0		0		0		0		0		0		0
Total $	17000		0		0		112500		405000		0		48000		93000		0		27500		134500		357500		45000		124100		1364100
presc/plan	0		0		0		10000	1	5000	1	0		2000	1	3500	1	0		4800	2	9600	2	22000	1	0		11900	1	68800
Total imped $	17000		0		0		122500		410000		0		50000		96500		0		32300		144100		379500		45000		136000		1432900
site restoration																													
fill plant	0		0		0		0		0		0		0		0		0		0		0		0		0		0		0
rehab	0		0		0		0		0		0		0		20000	2	639000	1	286000	1	143000	1	37500	1	0		0		1125500
reforestation	0		0		0		0		0		0		2500	1	0		68000	1	0		0		30000	1	0		0		100500
Total $	0		0		0		0		0		0		2500		20000		707000		286000		143000		67500		0		0		1226000
seed	0		0		0		0		0		0		1000	1	3000	1	0		0		0		80	1	0		0		4080
presc/plan	0		0		0		0		0		0		1500	1	2500	1	0		26000	1	13000	1	1000	1	0		0		44000
Tot site restor	0		0		0		0		0		0		5000		25500		707000		312000		156000		68580		0		0		1274080

Backlog Totals	TFL37-CFP	TFL10-IFP	TFL38-IFP	TFL 45	TFL54-IFP	TFL26-Miss	TFL46-TFL	TFL 47 TFL	TFL 39 Wey	TFL44-Wey	TFL57-Wey	TFL6-WFP	TFL19-WFP	TFL 25 WFP	Total $$
Region															
surveys	11000	0	2250	0	0	0	9000	64000	126125	90000	52500	40000	28000	22100	444975
site prep	0	0	0	0	1000	0	2400	27000	644000	286000	143000	37500	0	0	1140900
planting	0	0	7000	98000	20000	0	5500	10000	242000	297000	0	30000	0	0	709500
brushing	6000	0	85000	112500	405000	0	42000	45000	570000	396000	594000	330000	17000	104000	2706500
density space	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total $$	17000	0	94250	210500	426000	0	58900	146000	1582125	1069000	789500	437500	45000	126100	5001875
seed	0	0	0	0	0	0	3000	8500	0	0	0	80	0	0	11580
presc/plan	0	0	0	10000	5000	0	4700	8700	25000	81200	56200	23000	0	11900	225700
studies	0	0	0	0	0	0	0	0	45000	0	0	0	0	0	45000
Total BL $	17000	0	94250	220500	431000	0	66600	163200	1652125	1150200	845700	460580	45000	138000	5284155

Vancouver Forest Region Backlog Activity Opportunities in dollars Summarized by Priority
2001/2002
15 September, 2000

Backlog $$$	Priority 1 $$	Priority 1 % Grand Total	Priority 2 $$	Priority 2 % Grand Total	Priority 3 $$	Priority 3 % Grand Total	Priority Total $$	Total % of Grand Total
Legal								
surveys	70217	0.8	0	0	0	0	70217	
site prep	11880	0.1	0	0	0	0	11880	
planting	153100	1.7	0	0	0	0	153100	
brushing	275300	3.0	0	0	0	0	275300	
max density	0	0.0	0	0	0	0	0	
Seed	4400	0.0	0	0	0	0	4400	
Total legal$	514897	5.7	0	0	0	0	514897	
Refor.								
surveys	340500	3.8	39000	0.4	2250	0.0	381750	
site prep	83500	0.9	27000	0.3	0	0	110500	
planting	435250	4.8	483200	5.4	0	0	918450	
brushing	1575500	17.4	0	0	0	0	1575500	
seed	19500	0.2	7500	0.1	0	0	27000	
presc/plan	116000	1.3	15400	0.2	0	0	131400	
Total refor $	2570250	28.5	572100	6.3	2250	0.0	3144600	
impeded								
surveys	347850	3.9	43010	0.5	0	0	390860	
brushing	3101500	34.3	376175	4.2	0	0	3477675	
density space	0	0.0	0	0.0	0	0	0	
presc/plan	113150	1.3	14400	0.2	0	0	127550	
Total imped $	3562500	39.4	433585	4.8	0	0	3996085	
site restoration								
fill plant	0	0.0	0	0	0	0	0	
rehab	1105500	12.2	20000	0.2	0	0	1125500	
reforestation	100500	1.1	0	0	0	0	100500	
				0				
seed	4080	0.0	0		0	0	4080	
presc/plan	44000	0.5	0	0	0	0	44000	
Tot site restore $	1254080	13.9	20000	0.2	0	0	1274080	
studies	102000	1.1	0	0	0	0	102000	
Grand Total	8003727	88.6	1025685	11.4	2250	0	9031662	

Appendix 2 Vancouver Forest Region Enhanced Forestry Opportunities in Dollars
2001/2002
2000/15/09

Enhanced	DCK				DSQ				DSC					DSI							
Forestry	TSA	TFL26-Miss	$ Total	priority	TSA	TFL38-IFP	$ Total	priority	TSA	TFL10-IFP	TFL39-Wey	$ Total	priority	TSA	TFL25-WFP	TFL54-IFP	TFL44-Wey	TFL46-TFL	TFL57-Wey	$ Total	priority
Stand Tending																					
Surveys	40000	8250	48250	2,1	150000	5000	155000	2,3	75000	0	12000	87000	1,n,1	43750	14375	0	110000	38000	22000	228125	2,1,n,1,1,1
Spacing	648000	102300	750300	2,1	1560000	115000	1675000	2,1	2040000	0	100000	2140000	1,n,2	560000	50000	0	0	180000	0	790000	1,1,n,n,2,n
Pruning	576000	39000	615000	2,2	300000	150000	450000	3,2	2100000	0	32250	2132250	1,n,2	375000	300000	0	0	0	0	675000	3,1,n,n,n,n
Fertilizing	450000	0	450000	1,n	350000	0	350000	1,n	280000	0	116000	396000	2,n,1	250000	240000	19685	440000	280000	132000	1361685	1,1,2,1,1,2
other	0	0	0	n,n	0	0	0	n,n	0	0	0	0	n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Total $	1714000	149550	1863550		2360000	270000	2630000		4495000	0	260250	4755250		1228750	604375	19685	550000	498000	154000	3054810	
plan/presc	75000	5000	80000	1,1	0	0	0	n,n	0	0	4000	4000	n,n,1	43750	15750	2000	50000	40000	12000	163500	2,1,n,1,1,1
Total tendind $	1789000	154550	1943550		2360000	270000	2630000		4495000	0	264250	4759250		1272500	620125	21685	600000	538000	166000	3218310	
Forest Health																					
Spacing	0	0	0	n,n	0	0	0	n,n	320000	0	40000	360000	1,n,2	0	0	0	0	0	0	0	n,n,n,n,n,n
Pruning	0	0	0	n,n	0	0	0	n,n	12000	0	0	12000	1,n,n	150000	0	0	66000	0	0	216000	1,n,n,2,n,n
Other	0	0	0		0	0	0	n,n	95000	0	0	95000	1,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Total $	0	0	0	n,n	0	0	0		427000	0	40000	467000		150000	0	0	66000	0	0	216000	
Habitat Supply																					
Riparian	0	0	0	n,n	0	0	0	n,n	17000	0	30000	47000	2,n,2	0	0	0	0	0	0	0	n,n,n,n,n,n
Non Riparian	0	0	0	n,n	39005	0	39005	3,n	34000	0	0	34000	2,n,n	0	0	0	0	20000	0	20000	n,n,n,n,2,n
Total $	0	0	0		39005	0	39005		51000	0	30000	81000		0	0	0	0	20000	0	20000	
Range																					
treatments	0	0	0	n,n	0	0	0	n,n	0	0	0	0	n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Enhanced MU																					
Total																					
Surveys	40000	8250	48250		150000	5000	155000		75000	0	12000	87000		43750	14375	0	110000	38000	22000	228125	
Spacing	648000	102300	750300		1560000	115000	1675000		2360000	0	140000	2500000		560000	50000	0	0	180000	0	790000	
Pruning	576000	39000	615000		300000	150000	450000		2112000	0	32250	2144250		525000	300000	0	66000	0	0	891000	
Fertilizing	450000	0	450000		350000	0	350000		280000	0	116000	396000		250000	240000	19685	440000	280000	132000	1361685	
other	0	0	0		39005	0	39005		146000	0	30000	176000		0	0	0	0	20000	0	20000	
Total $	1714000	149550	1863550		2399005	270000	2669005		4973000	0	330250	5303250		1378750	604375	19685	616000	518000	154000	3290810	
plan/presc	75000	5000	80000		0	0	0		0	0	4000	4000		43750	15750	2000	50000	40000	12000	163500	
studies	0	0	0		25000	0	25000	1,n	0	0	40000	40000	n,n,1	0	30000	0	60000	12000	0	102000	n,1,n,1,1,n
Total enhanced $	1789000	154550	1943550		2424005	270000	2694005	0	4973000	0	374250	5347250	0	1422500	650125	21685	726000	570000	166000	3556310	

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Enhanced Forestry	DCR								DPM							
	TSA	TFL19-WFP	TFL25-WFP	TFL45-IFP	TFL39-Wey	TFL47-TFL	$ Total	Priority	TSA	TFL6-WFP	TFL45-IFP	TFL37-CFP	TFL39-Wey	TFL47-TFL	$ Total	Priority
Stand Tending																
Surveys	127500	34000	18250	5625	98000	20000	301375	1,1,n,1,1,1	44375	37500	45000	8000	40000	4000	178875	1,1,1,1,1,1
Spacing	1200000	314500	50000	0	340000	100000	2004500	2,1,n,1,1,2	410000	625000	0	18000	144000	180000	1377000	2,2,n,2,2,2
Pruning	600000	335400	90000	100000	100000	0	1225400	2,2,n,3,2,n	425000	1350000	0	108000	48000	0	1931000	2,2,n,2,2,n
Fertilizing	450000	270000	135000	15000	625000	180000	1675000	1,1,n,2,1,1	270000	480000	150000	722791	315000	15000	1952791	1,1,2,1,1,1
other	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	75000	175000	250000	n,n,n,n,1,3
Total $	2377500	953900	291250	120625	1163000	300000	5206275		1149375	2492500	195000	856791	622000	374000	5689666	
plan/presc	100000	0	11250	15000	0	20000	146250	1,n,1,1,n,1	36000	60000	15000	0	0	40000	151000	1,1,n,n,n,1
Total tending $	2477500	953900	302500	135625	1163000	320000	5352525		1185375	2552500	210000	856791	622000	414000	5840666	
Forest Health																
Spacing	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Pruning	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Other	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Total $	0	0	0	0	0	0	0		0	0	0	0	0	0	0	
Habitat Supply																
Riparian	0	0	0	0	0	0	0	n,n,n,n,n,n	0	75000	0	0	0	0	75000	n,1,n,n,n,n
Non Riparian	100000	0	0	0	0	0	100000	n,n,n,n,n,n	0	50000	0	0	0	36000	86000	n,1,n,n,n,2
Total $	100000	0	0	0	0	0	100000		0	125000	0	0	0	36000	161000	
Range																
treatments	0	0	0	0	0	0	0	n,n,n,n,n,n	0	0	0	0	0	0	0	n,n,n,n,n,n
Enhanced MU																
Total																
Surveys	127500	34000	18250	5625	98000	20000	301375		44375	37500	45000	8000	40000	4000	178875	
Spacing	1200000	314500	50000	0	340000	100000	2004500		410000	625000	0	18000	144000	180000	1377000	
Pruning	600000	335400	90000	100000	100000	0	1225400		425000	1350000	0	108000	48000	0	1931000	
Fertilizing	450000	270000	135000	15000	625000	180000	1675000		270000	480000	150000	722791	315000	15000	1952791	
other	100000	0	0	0	0	0	100000		0	125000	0	0	75000	211000	411000	
Total $	2477500	953900	291250	120625	1163000	300000	5306275		1149375	2617500	195000	856791	622000	410000	5850666	
plan/presc	100000	0	11250	15000	0	20000	146250		36000	60000	15000	0	0	40000	151000	
studies	0	25000			40000	27000	92000	n,1,n,n,1,1	0	200000	0	0	0	18000	218000	n,1,n,n,n,1
Total enhanced $	2577500	978900	302500	135625	1203000	347000	5544525		1185375	2877500	210000	856791	622000	468000	6219666	

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Enhanced	DMC					DOC						$$
Forestry	TSA	TFL25-WFP	TFL39 Wey	$ Total	priority	TSA	TFL25-WFI	TFL39-Wey	TFL47-TFL	$ Total	priority	Grand Total
Stand Tending												
Surveys	18300	0	9000	27300	n,n,1	18750	93750	9000	0	121500	1,1,1,n	1147425
Spacing	300000	0	52000	352000	n,n,1	604800	100000	180000	0	884800	1,1,2,n	9973600
Pruning	280000	0	25000	305000	n,n,2	95000	100000	0	0	195000	3,1,n,n	7528650
Fertilizing	0	0	0	0	n,n,n	0	617500	70000	0	687500	n,n,1,n	6872976
other	0	0	0	0	n,n,n	0	0	0	0	0	n,n,n,n	250000
Total $	598300	0	86000	684300		718550	911250	259000	0	1888800		25772651
plan/presc		0	0	0	n,n,n	0	26250	0	0	26250	n,1,n,n	571000
Total tending $	598300	0	86000	684300		718550	937500	259000	0	1915050		26343651
Forest Health												
Spacing	0	0	0	0	n,n,n	0	0	0	0	0	n,n,n,n	360000
Pruning	0	0	0	0	n,n,n	0	0	0	0	0	n,n,n,n	228000
Other	0	0	0	0	n,n,n	0	0	25000	0	25000	n,n,2,n	120000
Total $	0	0	0	0		0	0	25000	0	25000		708000
Habitat Supply												
Riparian	0	0	30000	30000	n,n,2	80000	0	0	0	80000	3,n,n,n	232000
Non Riparian	0	0	0	0	n,n,n	0	0	0	0	0	n,n,n,n	279006
Total $	0	0	30000	30000		80000	0	0	0	80000		511006
Range												
treatments	0	0	0	0	n,n,n	0	0	0	0	0	n,n,n,n	0
Enhanced MU												
Total												
Surveys	18300	0	9000	27300		18750	93750	9000	0	121500		1147425
Spacing	300000	0	52000	352000		604800	100000	180000	0	884800		10333600
Pruning	280000	0	25000	305000		95000	100000	0	0	195000		7756650
Fertilizing	0	0	0	0		0	617500	70000	0	687500		6872976
other	0	0	30000	30000		80000	0	25000	0	105000		881006
Total $	598300	0	116000	714300		798550	911250	284000	0	1993800		26991656
plan/presc	0	0	0	0		0	26250	0	0	26250		571000
studies	0	0	0	0		0	0	100000	0	100000	n,n,3,n	577000
Total enhanced $	598300	0	116000	714300		798550	937500	384000	0	2120050		28139656

Enhanced	$	$	$
Forestry	TSAs	TFLs	Total
Stand Tending			
Surveys	517675	629750	1147425
Spacing	7322800	2650800	9973600
Pruning	4751000	2777650	7528650
Fertilizing	2050000	4822976	6872976
other	0	250000	250000
Total $	14641475	11131176	25772651
plan/presc	254750	316250	571000
Total tending $	14896225	11447426	26343651
Forest Health			
Spacing	320000	40000	360000
Pruning	162000	66000	228000
Other	95000	25000	120000
Total $	577000	131000	708000
Habitat Supply			
Riparian	97000	135000	232000
Non Riparian	173006	106000	279006
Total $	270006	241000	511006
Range			
treatments	0	0	0
Enhanced MU			
Total			
Surveys	517675	629750	1147425
Spacing	7642800	2690800	10333600
Pruning	4913000	2843650	7756650
Fertilizing	2050000	4822976	6872976
other	365006	516000	881006
Total $	15488480	11603176	26991656
plan/presc	254750	316250	571000
studies	25000	552000	577000
Total enhanced $	15768230	12371426	28139656

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$ Enhanced Forestry	Fraser TSA	p	Soo TSA	p	Sunshine Cst TSA	p	Arrowsmith TSA	p	Strathcona TSA	p	Kingcome TSA	p	Mid Coast TSA	p	QCI TSA	p	Total TSA
Stand Tending																	
Surveys	40000	2	150000	2	75000	1	43750	2	127500	1	44375	1	18300	1			498925
Spacing	648000	2	1560000	2	2040000	1	560000	1	1800000	2	410000	2	300000	2			7318000
Pruning	576000	2	300000	3	2100000	1	375000	3	600000	2	425000	2,3	280000	3			4656000
Fertilizing	450000	1	350000	1	280000	2	250000	1	450000	1	270000	1	0		0		2050000
other	0		0		0		0		0		0		0		0		0
Total $	1714000		2360000		4495000		1228750		2977500		1149375		598300		0		14522925
plan/presc	75000	1	0		0		43750	2	100000	1	36000	1			0		254750
Total tendind $	1789000		2360000		4495000		1272500		3077500		1185375		598300		0		14777675
																	0
Forest Health																	0
Spacing	0		0		320000	1	0		0		0		0		0		320000
Pruning	0		0		12000	1	150000	1	0		0		0		0		162000
Other	0		0		95000	1	0		0		0		0		0		95000
Total $	0		0		427000		150000		0		0		0		0		577000
Habitat Supply																	
Riparian	0		0		17000	2	0		0		0		0		0		17000
Non Riparian	0		39005	3	34000	2	0		100000	3	0		0		0		173005
Total $	0		39005		51000		0		100000		0		0		0		190005
																	0
Range																	0
treatments	0		0		0		0		0		0		0		0		0
																	0
Enhanced MU																	0
Total																	0
Surveys	40000		150000		75000		43750		127500		44375		18300		0		498925
Spacing	648000		1560000		2360000		560000		1800000		410000		300000		0		7638000
Pruning	576000		300000		2112000		525000		600000		425000		280000		0		4818000
Fertilizing	450000		350000		280000		250000		450000		270000		0		0		2050000
other	0		39005		146000		0		100000		0		0		0		285005
Total $	1714000		2399005		4973000		1378750		3077500		1149375		598300		0		15289930
plan/presc	75000		0		0		43750		100000		36000		0		0		254750
studies	0		25000	1	0		0		0		0		0		0		25000
Total enhanced $	1789000		2424005		4973000		1422500		3177500		1185375		598300		0		15569680

$ Enhanced Forestry	TFLs CFP	TFLs Mission	TFLS TFL	TFLS IFP	TFLs Wey	TFLs WFP	Total $	Total $ TSA/TFL
Stand Tending								
Surveys	8000	8250	62000	55625	300000	195875	629750	1128675
Spacing	18000	102300	460000	115000	816000	1139500	2650800	9968800
Pruning	108000	39000	0	250000	205250	2175400	2777650	7433650
Fertilizing	722791	0	475000	184685	1698000	1742500	4822976	6872976
other	0	0	175000	0	75000	0	250000	250000
Total $	856791	149550	1172000	605310	3094250	5253275	11131176	25654101
plan/presc	0	5000	100000	32000	66000	113250	316250	571000
Total tendind $	856791	154550	1272000	637310	3160250	5366525	11447426	26225101
Forest Health								
Spacing	0	0	0	0	40000	0	40000	360000
Pruning	0	0	0	0	66000	0	66000	228000
Other	0	0	0	0	25000	0	25000	120000
Total $	0	0	0	0	131000	0	131000	708000
Habitat Supply								
Riparian	0	0	0	0	60000	75000	135000	152000
Non Riparian	0	0	56000	0	0	50000	106000	279005
Total $	0	0	56000	0	60000	125000	241000	431005
			0	0	0	0	0	0
Range			0	0	0	0	0	0
treatments	0	0	0	0	0	0	0	0
			0	0	0	0	0	0
Enhanced MU			0	0	0	0	0	0
Total			0	0	0	0	0	0
Surveys	8000	8250	62000	55625	300000	195875	629750	1128675
Spacing	18000	102300	460000	115000	856000	1139500	2690800	10328800
Pruning	108000	39000	0	250000	271250	2175400	2843650	7661650
Fertilizing	722791	0	475000	184685	1698000	1742500	4822976	6872976
other	0	0	231000	0	160000	125000	516000	801005
Total $	856791	149550	1228000	605310	3285250	5378275	11503176	26793106
plan/presc	0	5000	100000	32000	66000	113250	316250	571000
studies	0	0	57000	0	240000	230000	527000	552000
Total enhanced $	856791	154550	1385000	637310	3591250	5721525	12346426	27916106

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$ Enhanced	TFL 37		TFL 10		TFL 38		TFL45		TFL 54		TFL 26		TFL 46		TFL 47		TFL39		TFL 44		TFL 57		TFL 6		TFL 19		TFL 25		Total $$
Forestry	CFP	p	IFP	p	IFP	p	IFP	p	IFP	p	Mission	p	TFL	p	TFL	p	Wey	p	Wey	p	Wey	p	WFP	p	WFP	p	WFP	p	TFLs
Stand Tending																													
Surveys	8000	1	0		5000	3	50625	1	0		8250	2	38000	1	24000	1	168000	1	110000	1	22000	1	37500	1	34000	1	124375	1	629750
Spacing	18000	2	0		115000	1	0		0		102300	2	180000	2	280000	2	816000	2	0		0		625000	2	314500	1	200000	1	2650800
Pruning	108000	2	0		150000	2	100000	3	0		39000	2	0		0		205250	2	0		0		1350000	2	335400	2	490000	1	2777650
Fertilizing	722791	1	0		0		165000	2	19685	2	0		280000	1	195000	1	1126000	1	440000	1	132000	2	480000	1	270000	1	992500	1	4822976
other	0		0		0		0		0		0		0		175000	3	75000	1	0		0		0		0		0		250000
Total $	856791		0		270000		315625		19685		149550		498000		674000		2390250		550000		154000		2492500		953900		1806875		11131176
plan/presc	0		0				30000	1	2000	2	5000	1	40000	1	60000	1	4000	1	50000	1	12000	1	60000	1	0		53250	1	316250
Total tendind $	856791		0		270000		345625		21685		154550		538000		734000		2394250		600000		166000		2552500		953900		1860125		11447426
Forest Health																													
Spacing	0		0		0		0		0		0		0		0		40000	2	0		0		0		0		0		40000
Pruning	0		0		0		0		0		0		0		0		0		66000	2	0		0		0		0		66000
Other	0		0		0		0		0		0		0		0		25000	2	0		0		0		0		0		25000
Total $	0		0		0		0		0		0		0		0		65000		66000		0		0		0		0		131000
Habitat Supply																													
Riparian	0		0		0		0		0		0		0		0		60000	2	0		0		75000	1	0		0		135000
Non Riparian	0		0		0		0		0		0		20000	2	36000	2	0		0		0		50000	1	0		0		106000
Total $	0		0		0		0		0		0		20000		36000		60000		0		0		125000		0		0		241000
							0								0		0										0		0
Range							0								0		0										0		0
treatments	0		0		0		0		0		0		0		0		0		0		0		0		0		0		0
							0								0		0										0		0
Enhanced MU							0								0		0										0		0
Total							0								0		0										0		0
Surveys	8000		0		5000		50625		0		8250		38000		24000		168000		110000		22000		37500		34000		124375		629750
Spacing	18000		0		115000		0		0		102300		180000		280000		856000		0		0		625000		314500		200000		2690800
Pruning	108000		0		150000		100000		0		39000		0		0		205250		66000		0		1350000		335400		490000		2843650
Fertilizing	722791		0		0		165000		19685		0		280000		195000		1126000		440000		132000		480000		270000		992500		4822976
other	0		0		0		0		0		0		20000		211000		160000		0		0		125000		0		0		516000
Total $	856791		0		270000		315625		19685		149550		518000		710000		2515250		616000		154000		2617500		953900		1806875		11503176
plan/presc	0		0		0		30000		2000		5000		40000		60000		4000		50000		12000		60000		0		53250		316250
studies	0		0		0		0		0		0		12000	1	45000	1	180000	1	60000	1	0		200000	1	0		30000	1	527000
Total enhanced $	856791		0		270000		345625		21685		154550		570000		815000		2699250		726000		166000		2877500		953900		1890125		12346426

Vancouver Forest Region Enhanced Forestry Activity Opportunities in dollars Summarized by Priority
2001/2002
15 September, 2000

$ Enhanced Forestry	Priority 1 $$	Priority 1 % Grand Total	Priority 2 $$	Priority 2 % Grand Total	Priority 3 $$	Priority 3 % Grand Total	Priority Total $$	Total % of Grand Total
Stand Tending								
Surveys	881675	3.2	242000	0.9	5000	0.0	1128675	4.0
Spacing	4345500	15.6	5623300	20.1	0	0.0	9968800	35.7
Pruning	490000	1.8	5888650	21.1	1055000	3.8	7433650	26.6
Fertilizing	6276291	22.5	596685	2.1	0	0.0	6872976	24.6
other	75000	0.3	0	0.0	175000	0.6	250000	0.9
Total $	12068466	43.2	12350635	44.2	1235000	4.4	25654101	91.9
plan/presc	525250	1.9	45750	0.2	0	0.0	571000	2.0
Total tendind $	12593716	45.1	12396385	44.4	1235000	4.4	26225101	93.9
Forest Health								
Spacing	320000	1.1	40000	0.1	0	0.0	360000	1.3
Pruning	162000	0.6	66000	0.2	0	0.0	228000	0.8
Other	95000	0.3	25000	0.1	0	0.0	120000	0.4
Total $	577000	2.1	131000	0.5	0	0.0	708000	2.5
Habitat Supply								
Riparian	75000	0.3	77000	0.3	0	0.0	152000	0.5
Non Riparian	50000	0.2	90000	0.3	139005	0.5	279005	1.0
Total $	125000	0.4	167000	0.6	139005	0.5	431005	1.5
Range								
treatments	0	0.0	0	0.0	0	0.0	0	0.0
studies	552000	2.0	0	0.0	0	0.0	552000	2.0
Grand Total	13847716	49.6	12694385	45.5	1374005	4.9	27916106	100.0

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4) Summary Table for Management Unit
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Interfor TFL 54 Escalante Block
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	31	380	200	0	0	635.00	19685	2
Other	0	0	0	0	0	0.00	0	
Totals hectares	31	380	200	0	0	634.94	19,685	
Planning and prescriptions							2,000	2
Total dollars							21,685	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	0	0	0	0	0	#DIV/0!	0
Spacing	0	0	0	0	0	0.00	0
Pruning	0	0	0	0	0	0.00	0
Fertilizing	31	380	200	0	0	635.00	19,685
Other stand tending activities	0	0	0	0	0	0.00	0
Totals hectares	31	380	200	0	0	634.82	19,685
Planning and prescriptions							2,000
Studies funding							0
Total dollars							21,685

12/28/2005

Interfor TFL 54 Escalante Block
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	#DIV/0!	0	0
Planting	0	0	0	0	0	#DIV/0!	0	0
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	239	100	50	0.00	0	
Site preparation	1	0	0	0	0	1,000.00	1000	1
Planting	20	10	5	0	0	1,000.00	20000	1
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	21	10	244	100	50	999.90	21,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							21,000	
Impeded areas								
Surveys	0	0	0	0	0	0.00	0	
Brushing	300	100	50	0	0	1,350.00	405000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	300	100	50	0	0	1,349.99	405,000	
Prescriptions and planning dollars							5,000	1
Total impeded areas							410,000	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	239	100	50	0.00	0	
Site preparation	1	0	0	0	0	999.00	1000	
Planting	20	10	5	0	0	999.90	20000	
Brushing	300	100	50	0	0	1,349.99	405000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	321	110	294	100	50	1,327.07	426000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							5,000	
Recommended studies							0	
Total backlog program							431,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

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Vancouver Forest Region (TSAs and TFLs Combined)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	29171	29205	27960	27330	26530	39.33	1147425	
Spacing	5834	5906	5891	6006	5746	1709.56	9973600	
Pruning	3530	2998	2848	3028	2650	2132.76	7528650	
Fertilizing	20481	18960	17680	17080	16030	335.58	6872976	
Other	98	98	98	148	148	2563.66	250000	
Totals hectares	59114	57167	54477	53592	51104	435.99	25,772,651	
Planning and prescriptions							571,000	
Total dollars							26,343,651	

Forest Health Enhancement

Spacing	60	110	100	100	100	5,997.70	360000	
Pruning	230	280	280	230	230	991.24	228000	
Other treatments	690	740	740	740	740	173.91	120000	
Totals hectares	980	1130	1120	1070	1070	722.41	708,000	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	100	85	85	85	85	2,319.65	232000	
Non-riparian treatments	134	130	230	380	380	2,081.97	279005	
Totals hectares	234	215	315	465	465	2,183.55	511,005	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	29171	29205	27960	27330	26530	39.33	1,147,425	
Spacing	5894	6016	5991	6106	5846	1,753.23	10,333,600	
Pruning	3760	3278	3128	3258	2880	2,062.93	7,756,650	
Fertilizing	20481	18,960	17,680	17,080	16,030	335.58	6,872,976	
Other stand tending activities	1022	1053	1153	1353	1353	862.42	881005	
Totals hectares	60328	57459	54759	53774	51286	447.42	26,991,656	
Planning and prescriptions							571,000	
Studies funding							577000	
Total dollars							28,139,656	

12/28/2005

Vancouver Forest Region (TSAs and TFLs Combined)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	1286	1317	1259	1268	1176	46.82	60217	
Site preparation	14	5	5	5	5	847.48	11880	
Planting	137	50	50	30	30	1,117.39	153100	
Brushing	238	180	235	101	164	1,156.65	275300	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1675	1552	1549	1404	1375	298.79	500,497	
Seed purchase	9830					0.45	4400	
Total legal obligations							504,897	
Backlog Reforestation								
Surveys	14705	10588	8145	7247	6880	25.96	381750	
Site preparation	125	137	175	50	50	883.91	110500	
Planting	552	569	450	245	245	1,663.83	918450	
Brushing	1250	862	592	460	385	1,260.39	1575500	
Totals hectares	16632	12156	9362	8002	7560	179.54	2,986,200	
Seed purchase	70050					0.39	27,000	
Prescriptions and planning dollars							131,400	
Total backlog reforestation							3,144,600	
Impeded areas								
Surveys	10226	6375	4310	3075	2745	38.22	390860	
Brushing	3135	2220	1935	1095	1020	1,109.31	3477675	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	13361	8595	6245	4170	3765	289.54	3,868,535	
Prescriptions and planning dollars							127,550	
Total impeded areas							3,996,085	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	381	311	221	246	226	2,953.97	1125500	
Reforestation	72	72	52	52	32	1,395.54	100500	
Totals hectares	453	383	273	298	258	2,706.14	1,226,000	
Seed purchase	11,600	11,600	11,600	11,600	11,600	0.35	4,080	
Prescriptions and planning dollars							44,000	
Total site restoration							1,274,080	
Backlog Program Activities - Management Unit Total								
Surveys	26217	18280	13714	11590	10801	31.77	832827	
Site preparation	520	453	401	301	281	2,399.57	1247880	
Planting	761	691	552	327	307	1,540.03	1172050	
Brushing	4623	3262	2762	1656	1569	1,152.59	5328475	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	32121	22686	17429	13874	12958	267.15	8581232	
Seed purchase	91480	11600	11600	11600	11600	0.39	35480	
Prescriptions and planning							302,950	
Recommended studies							102,000	
Total backlog program							9,021,662	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Vancouver Forest Region (TSAs and TFLs Combined)
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.
Potential volume/ha gain (m3/ha/yr) provincial factors:
Years the factor will affect:

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.
Provincial factors for estimated value gain at harvest

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.
Est. short term employment rate (person days/ha) provincial factors:

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	**Nursery Seedling Production**	**Silviculture Surveys**
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002	761		
Backlog area planted from backlog table			
Enter area of all other sites planted with improved trees	761		
Total area affected by tree improvement			
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			29,171
Total EFP surveys from the EFP table			26,217
Total backlog surveys from the backlog table.			18,278
33% of all silviculture surveys			
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			18,278
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be [illegible]ght to free growing status (impeded areas) Estimate area that will be classified as free growing after a su[illegible]001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Vancouver Forest Region (TSAs and TFLs Combined)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	761	0	18,278	520	761	4,623	5,894	3,760	20,481	56,100	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	38,091	0	297,018	0	93,991	75,124	0	0	614,430		1,118,654
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	76	0	1,828	494	1,522	12,066	23,340	17,070	3,687	5,610	
3.3	Estimated total full time equivalent positions (FTE)	0	0	10	3	8	67	130	95	20	31	365
4.1	**Forest Health Enhancement (ha)**											980
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											234
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Vancouver Forest Region (TSAs and TFLs Combined)
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	60,328	57,459	54,759	53,774	51,286	447	26,991,656
Planning, prescriptions and seedlings							1,148,000
Backlog Program Field Activities	32,121	0	0	0	0	267	8,581,232
Planning, prescriptions and seedlings							440,430
Totals	92,449	57,459	54,759	53,774	51,286		37,161,318

Performance Measures

Potential total merchentable volume increment in 65 years	1,118,654 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	365 FTEs
Forest health enhancement area	980 ha
Planned area for specific wildlife forage or habitat maintenance	234 ha
Estimated area with secondary value provided to biodiversity	0 ha

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Campbell River TSA/TFL Combined
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	7975	7400	7500	7250	7100	37.79	301375	
Spacing	925	1000	1000	1065	830	2167.03	2004500	
Pruning	552	575	455	420	380	2219.93	1225400	
Fertilizing	5850	6100	6100	6400	5800	286.32	1675000	
Other	0	0	0	0	0	0.00	0	
Totals hectares	15302	15075	15055	15135	14110	340.23	5,206,275	
Planning and prescriptions							146,250	
Total dollars							5,352,525	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	50	50	50	50	50	2,000.00	100000	
Totals hectares	50	50	50	50	50	1,999.96	100,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	7975	7400	7500	7250	7100	37.79	301,375	
Spacing	925	1000	1000	1065	830	2,167.02	2,004,500	
Pruning	552	575	455	420	380	2,219.92	1,225,400	
Fertilizing	5850	6,100	6,100	6,400	5,800	286.32	1,675,000	
Other stand tending activities	50	50	50	50	50	1,999.84	100000	
Totals hectares	15352	15075	15055	15135	14110	345.64	5,306,275	
Planning and prescriptions							146,250	
Studies funding							92000	
Total dollars							5,544,525	

12/28/2005

Campbell River TSA/TFL Combined
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	1315	1315	215	215	215	36.79	48375	
Site preparation	4	4	0	0	0	750.00	3000	
Planting	24	24	20	20	20	2,083.33	50000	
Brushing	80	84	24	20	20	1,000.00	80000	
Totals hectares	1423	1427	259	255	255	127.46	181,375	
Seed purchase	4000	4000	0	0	0	0.63	2,500	
Prescriptions and planning dollars							1,200	
Total backlog reforestation							185,075	
Impeded areas								
Surveys	2670	1200	910	400	210	34.03	90850	
Brushing	150	140	130	40	30	1,700.00	255000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	2820	1340	1040	440	240	122.64	345,850	
Prescriptions and planning dollars							8,150	
Total impeded areas							354,000	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	146	76	6	6	6	2,869.86	419000	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	146	76	6	6	6	2,869.82	419,000	
Seed purchase	6,000	6000	6000	6000	6000	0.50	3,000	
Prescriptions and planning dollars							2,500	
Total site restoration							424,500	
Backlog Program Activities - Management Unit Total								
Surveys	3985	2515	1125	615	425	34.94	139225	
Site preparation	150	80	6	6	6	2,813.31	422000	
Planting	24	24	20	20	20	2,083.07	50000	
Brushing	230	224	154	60	50	1,456.52	335000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	4389	2843	1305	701	501	215.59	946225	
Seed purchase	10000	10000	6000	6000	6000	0.55	5500	
Prescriptions and planning							11,850	
Recommended studies							0	
Total backlog program							963,575	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Campbell River TSA/TFL Combined
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area: Tree Improvement	Area: Nursery Seedling Production	Area: Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	24		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	24		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			7,975
Total backlog surveys from the backlog table.			3,985
33% of all silviculture surveys			3,947
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			3,947
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Campbell River TSA/TFL Combined
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improve-ment	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	24	0	3,947	150	24	230	925	552	5,850	11,752	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	1,201	0	64,136	0	2,964	3,738	0	0	175,500		247,539
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	2	0	395	143	48	600	3,663	2,506	1,053	1,175	
3.3	Estimated total full time equivalent positions (FTE)	0	0	2	1	0	3	20	14	6	7	53
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											50
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Campbell River TSA/TFL Combined
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	15,352	15,075	15,055	15,135	14,110	346	5,306,275
Planning, prescriptions and seedlings							238,250
Backlog Program Field Activities	4,389	0	0	0	0	216	946,225
Planning, prescriptions and seedlings							17,350
Totals	19,741	15,075	15,055	15,135	14,110		6,508,100

Performance Measures

Potential total merchentable volume increment in 65 years	247,539 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	53 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	50 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Chilliwack Forest District Roll Up (Combined TFL/TSA)

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Chilliwack Forest District Roll Up (Combined TFL/TSA)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities

Stand Tending

	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	2150	2150	2150	2150	2150	22.44	48250	
Spacing	633	595	580	580	580	1185.31	750300	
Pruning	420	395	410	410	410	1464.29	615000	
Fertilizing	1500	1700	1500	1700	1500	300.00	450000	
Other	0	0	0	0	0	#DIV/0!	0	
Totals hectares	4703	4840	4640	4840	4640	396.25	1,863,550	
Planning and prescriptions							80,000	
Total dollars							1,943,550	

Forest Health Enhancement

Spacing						#DIV/0!		
Pruning						#DIV/0!		
Other treatments						#DIV/0!		
Totals hectares	0	0	0	0	0	#DIV/0!	0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments						#DIV/0!		
Non-riparian treatments						#DIV/0!		
Totals hectares	0	0	0	0	0	#DIV/0!	0	

Domestic Range

Treatments						#DIV/0!		

Enhanced Forestry Activities - Management Unit Total

Surveys	2150	2150	2150	2150	2150	22.44	48,250	
Spacing	633	595	580	580	580	1,185.31	750,300	
Pruning	420	395	410	410	410	1,464.29	615,000	
Fertilizing	1500	1,700	1,500	1,700	1,500	300.00	450,000	
Other stand tending activities	0	0	0	0	0	#DIV/0!	0	
Totals hectares	4703	4840	4640	4840	4640	396.25	1,863,550	
Planning and prescriptions							80,000	
Studies funding							0	
Total dollars							1,943,550	

12/28/2005

Chilliwack Forest District Roll Up (Combined TFL/TSA)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	79	40	52	41	19	29.98	2367	1
Site preparation	9	0	0	0	0	764.44	6880	1
Planting	7	0	0	0	0	728.57	5100	1
Brushing	74	26	11	7	0	700.00	51800	1
Max. density spacing	0	0	0	0	0	#DIV/0!	0	
Totals hectares	169	66	63	48	19	391.40	66,147	
Seed purchase	6800	0	0	0	0	0.31	2100	1
Total legal obligations							68,247	
Backlog Reforestation								
Surveys	1000	373	476	742	825	30.00	30000	2
Site preparation	22	0	0	0	0	800.00	17600	2
Planting	15	7	0	0	0	746.67	11200	2
Brushing	0	0	0	0	0	#DIV/0!	0	
Totals hectares	1037	380	476	742	825	56.70	58,800	
Seed purchase	0	0	0	0	0	#DIV/0!	0	
Prescriptions and planning dollars							11,500	2
Total backlog reforestation							70,300	
Impeded areas								
Surveys	17	0	15	0	0	30.00	510	2
Brushing	59	0	15	0	0	748.73	44175	2
Density spacing	0	0	0	0	0	#DIV/0!	0	
Totals hectares	76	0	30	0	0	587.96	44,685	
Prescriptions and planning dollars							0	
Total impeded areas							44,685	
Site Restoration								
Fill planting	0	0	0	0	0	#DIV/0!	0	
Rehabilitation	0	0	0	0	0	#DIV/0!	0	
Reforestation	0	0	0	0	0	#DIV/0!	0	
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Seed purchase	0	0	0	0	0	#DIV/0!	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	1096	413	543	783	844	30.00	32877	
Site preparation	31	0	0	0	0	789.68	24480	
Planting	22	7	0	0	0	740.91	16300	
Brushing	133	26	26	7	0	721.62	95975	
Density spacing	0	0	0	0	0	#DIV/0!	0	
Totals hectares	1282	446	569	790	844	132.32	169632	
Seed purchase	6800	0	0	0	0	0.31	2100	
Prescriptions and planning							11,500	
Recommended studies							0	
Total backlog program							183,232	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Chilliwack Forest District Roll Up (Combined TFL/TSA)
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area: Tree Improvement	Area: Nursery Seedling Production	Area: Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	22		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	22		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			2,150
Total EFP surveys from the EFP table			1,096
Total backlog surveys from the backlog table.			1,071
33% of all silviculture surveys			
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			1,071
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Chilliwack Forest District Roll Up (Combined TFL/TSA)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	22	0	1,071	31	22	133	633	420	1,500	3,832	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	1,101	0	17,407	0	2,717	2,161	0	0	45,000		68,386
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	2	0	107	29	44	347	2,507	1,907	270	383	
3.3	Estimated total full time equivalent positions (FTE)	0	0	1	0	0	2	14	11	2	2	31
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Chilliwack Forest District Roll Up (Combined TFL/TSA)
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	4,703	4,840	4,640	4,840	4,640	396	1,863,550
Planning, prescriptions and seedlings							80,000
Backlog Program Field Activities	1,282	0	0	0	0	132	169,632
Planning, prescriptions and seedlings							13,600
Totals	5,985	4,840	4,640	4,840	4,640		2,126,782

Performance Measures

Potential total merchentable volume increment in 65 years	68,386 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	31 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

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The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Fraser TSA

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
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4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

12/28/2005

Fraser TSA
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	2000	2000	2000	2000	2000	20.00	40000	2
Spacing	540	540	540	540	540	1200.00	648000	2
Pruning	384	350	350	350	350	1500.00	576000	2
Fertilizing	1500	1500	1500	1500	1500	300.00	450000	1
Other	0	20	20	20	20	0.00	0	
Totals hectares	4424	4410	4410	4410	4410	387.43	1,714,000	
Planning and prescriptions							75,000	1
Total dollars							1,789,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	2000	2000	2000	2000	2000	20.00	40,000	
Spacing	540	540	540	540	540	1,200.00	648,000	
Pruning	384	350	350	350	350	1,500.00	576,000	
Fertilizing	1500	1,500	1,500	1,500	1,500	300.00	450,000	
Other stand tending activities	0	20	20	20	20	0.00	0	
Totals hectares	4424	4390	4390	4390	4390	387.43	1,714,000	
Planning and prescriptions							75,000	
Studies funding							0	
Total dollars							1,789,000	

12/28/2005

Fraser TSA
Backlog Program Table
For the 2001/02 Fiscal Year

Activities

Legal Obligations

	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	79	40	52	41	19	30.00	2367	1
Site preparation	9	0	0	0	0	800.00	6880	1
Planting	7	0	0	0	0	750.00	5100	1
Brushing	74	26	11	7	0	700.00	51800	1
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	168	66	63	48	19	392.79	66,147	
Seed purchase	6.8 K	0	0	0	0	0.32	2100	1
Total legal obligations							68,247	

Backlog Reforestation

(planned acitvies where there is no BSP)

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1000	373	476	742	825	30.00	30000	2
Site preparation	22	0	0	0	0	800.00	17600	2
Planting	15	7	0	0	0	750.00	11200	2
Brushing	0	4	0	0	0	700.00	0	2
Totals hectares	1037	383	476	742	825	56.70	58,800	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dolla	230					$50	11,500	2
Total backlog reforestation							70,300	

Impeded areas

(stocked areas where BSP is not required)

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	17	0	15	0	0	30.00	510	2
Brushing	59	0	15	0	0	750.00	44175	2
Density spacing	0	0	0	0	0	0.00	0	2
Totals hectares	76	0	30	0	0	588.73	44,685	
Prescriptions and planning dollars							0	
Total impeded areas							44,685	

Site Restoration

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	

Backlog Program Activities - Management Unit Total

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1096	413	542	783	844	30.00	32877	
Site preparation	31	0	0	0	0	799.97	24480	
Planting	22	7	0	0	0	747.64	16300	
Brushing	133	29	26	7	0	722.15	95975	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1281	449	568	790	844	132.39	169632	
Seed purchase	6.8 K	0	0	0	0	0.32	2100	
Prescriptions and planning							11,500	
Recommended studies							0	
Total backlog program							183,232	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Fraser TSA
Instructions for developing the Performance Measures Table for FRBC investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	**Nursery Seedling Production**	**Silviculture Surveys**
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	22		
Enter area of all other sites planted with improved trees	827		
Total area affected by tree improvement	849		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			2,000
Total backlog surveys from the backlog table.			1,096
33% of all silviculture surveys			1,022
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			1,022
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			100
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			500

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Note: area planted with genetically improved trees does not include planting funded under IA funding source.
sowing requests have been left blank as 1+0 stock for 2001/2002 has not yet been sown for yet.

Fraser TSA
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	849	0	1,022	31	22	133	540	384	1,500	4,480	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	42,483	0	16,602	0	2,693	2,160	0	0	45,000		108,937
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			100								100
1.5	Est. area that will be declared as free growing (ha)			500								500
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	85	0	102	29	44	347	2,138	1,743	270	448	
3.3	Estimated total full time equivalent positions (FTE)	0	0	1	0	0	2	12	10	2	2	29
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Fraser TSA
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	4,424	4,390	4,390	4,390	4,390	387	1,714,000
Planning, prescriptions and seedlings							75,000
Backlog Program Field Activities	1,281	0	0	0	0	132	169,632
Planning, prescriptions and seedlings							13,600
Totals	5,705	4,390	4,390	4,390	4,390		1,972,232

Performance Measures

Potential total merchentable volume increment in 65 years	108,937 m^3
Estimated ha that will be reclassified as stocked	100 ha
Estimated ha that will be declared as free growing	500 ha
Estimated total full time equivalent positions generated	29 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Mid Coast Forest District Roll Up (combined TSA TFLs)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	275	160	135	135	135	99.27	27300	
Spacing	170	170	120	95	95	2070.59	352000	
Pruning	150	160	160	110	85	2033.33	305000	
Fertilizing	0	0	0	0	0	0.00	0	
Other	0	0	0	0	0	0.00	0	
Totals hectares	595	490	415	340	315	1150.08	684,300	
Planning and prescriptions	0	0	0	0	0		0	
Total dollars							684,300	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	10	10	10	10	10	2,999.40	30000	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	10	10	10	10	10	2,999.10	30,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	275	160	135	135	135	99.27	27,300	
Spacing	170	170	120	95	95	2,070.56	352,000	
Pruning	150	160	160	110	85	2,033.31	305,000	
Fertilizing	0	0	0	0	0	0.00	0	
Other stand tending activities	10	10	10	10	10	2,997.60	30000	
Totals hectares	605	490	415	340	315	1,180.63	714,300	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							714,300	

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Mid Coast TSA
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	215	100	75	75	75	85.12	18300	
Spacing	150	150	100	75	75	2000.00	300000	
Pruning	140	150	150	100	75	2000.00	280000	
Fertilizing	0	0	0	0	0	0.00	0	
Other	0	0	0	0	0	0.00	0	
Totals hectares	505	400	325	250	225	1184.75	598,300	
Planning and prescriptions							0	
Total dollars							598,300	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	215	100	75	75	75	85.12	18,300	
Spacing	150	150	100	75	75	1,999.99	300,000	
Pruning	140	150	150	100	75	1,999.99	280,000	
Fertilizing	0	0	0	0	0	0.00	0	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	505	400	325	250	225	1,184.73	598,300	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							598,300	

Mid Coast Forest District Roll Up (combined TSA TFLs)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	10	0	0	0	0	199.98	2000	
Brushing	10	0	0	0	0	1,500.00	15000	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	20	0	0	0	0	849.79	17,000	
Seed purchase	3000	0	0	0	0	0.67	2000	
Total legal obligations							19,000	
Backlog Reforestation								
Surveys	40	40	40	40	40	25.00	1000	
Site preparation	0	0	0	0	0	0.00	0	
Planting	20	0	0	0	0	199.99	4000	
Brushing	20	0	0	0	0	1,499.93	30000	
Totals hectares	80	40	40	40	40	437.47	35,000	
Seed purchase	16000	0	0	0	0	0.25	4,000	
Prescriptions and planning dollars							2,000	
Total backlog reforestation							41,000	
Impeded areas								
Surveys	689	150	160	150	160	56.97	39250	
Brushing	221	20	30	20	30	1,723.98	381000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	910	170	190	170	190	461.81	420,250	
Prescriptions and planning dollars							8,250	
Total impeded areas							428,500	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	729	190	200	190	200	55.21	40250	
Site preparation	0	0	0	0	0	0.00	0	
Planting	30	0	0	0	0	199.96	6000	
Brushing	251	20	30	20	30	1,697.20	426000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1010	210	230	210	230	467.57	472250	
Seed purchase	19000	0	0	0	0	0.32	6000	
Prescriptions and planning							10,250	
Recommended studies							0	
Total backlog program							488,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Naka TFL 25 - Block 5 Swanson Bay - Mid-Coast Forest District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Stand Tending							
Surveys	0	0	0	0	0	#DIV/0!	0
Spacing	0	0	0	0	0	#DIV/0!	0
Pruning	0	0	0	0	0	#DIV/0!	0
Fertilizing	0	0	0	0	0	0.00	0
Other	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Planning and prescriptions							0
Total dollars							0
Forest Health Enhancement							
Spacing	0	0	0	0	0	0.00	0
Pruning	0	0	0	0	0	0.00	0
Other treatments	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Habitat Supply and Biodiversity Enhancement							
Treatments	0	0	0	0	0	0.00	0
Domestic Range							
Treatments	0	0	0	0	0	0.00	0
Enhanced Forestry Activities - Management Unit Total							
Surveys	0	0	0	0	0	0.00	0
Spacing	0	0	0	0	0	0.00	0
Pruning	0	0	0	0	0	0.00	0
Fertilizing	0	0	0	0	0	0.00	0
Other stand tending activities	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Planning and prescriptions							0
Studies funding							0
Total dollars							0

No Enhanced Program

12/28/2005

Naka TFL 25 - Block 5 Swanson Bay - Mid-Coast Forest District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02	
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Surveys	0	0	0	0	0	#DIV/0!	0
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	#DIV/0!	0
Max. density spacing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Total legal obligations							0
Backlog Reforestation							
Surveys	40	40	40	40	40	25.00	1000
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Totals hectares	40	40	40	40	40	25.00	1,000
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total backlog reforestation							1,000
Impeded areas							
Surveys	150	150	150	150	150	75.00	11250
Brushing	20	20	20	20	20	1,800.00	36000
Density spacing	0	0	0	0	0	0.00	0
Totals hectares	170	170	170	170	170	277.94	47,250
Prescriptions and planning dollars							7,500
Total impeded areas							54,750
Site Restoration							
Fill planting	0	0	0	0	0	0.00	0
Rehabilitation	0	0	0	0	0	0.00	0
Reforestation	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total site restoration							0
Backlog Program Activities - Management Unit Total							
Surveys	190	190	190	190	190	64.47	12250
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	20	20	20	20	20	1,799.91	36000
Density spacing	0	0	0	0	0	0.00	0
Totals hectares	210	210	210	210	210	229.75	48250
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning							7,500
Recommended studies							0
Total backlog program							55,750

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Mid Coast Forest District Roll Up (combined TSA TFLs)
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area: Tree Improvement	Area: Nursery Seedling Production	Area: Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	30		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	30		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			275
Total backlog surveys from the backlog table.			729
33% of all silviculture surveys			331
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			331
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Mid Coast Forest District Roll Up (combined TSA TFLs)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	30	0	331	0	30	251	170	150	0	972	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	1,502	0	5,384	0	3,706	4,079	0	0	0		14,670
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	3	0	33	0	60	655	673	681	0	97	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	4	4	4	0	1	12
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											10
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Mid Coast Forest District Roll Up (combined TSA TFLs)
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	605	490	415	340	315	1,181	714,300
Planning, prescriptions and seedlings							0
Backlog Program Field Activities	1,010	0	0	0	0	468	472,250
Planning, prescriptions and seedlings							16,250
Totals	1,615	490	415	340	315		1,202,800

Performance Measures

Potential total merchentable volume increment in 65 years	14,670 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	12 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	10 ha
Estimated area with secondary value provided to biodiversity	0 ha

Mid Coast TSA
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8806.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

Area affected by tree improvement, seedling production and silviculture surveys.
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

Area		
Tree Improvement	Nursery Seedling Production	Silviculture Surveys

A Tree Improvement
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002
Backlog area planted from backlog table 30
Enter area of all other sites planted with improved trees
Total area affected by tree improvement 30

B Nursery production of seedlings
Enter sowing requests from SPAR

C Silviculture surveys
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.
These potentially provide improved estimates of site productivity and operational yield adjustment factors
Total EFP surveys from the EFP table 215
Total backlog surveys from the backlog table. 539
33% of all silviculture surveys 249

Optionally, you may provide a more exact estimate:
Estimate area of regen delay surveys
Estimate area of free growing surveys
Estimate area of pre-stand tending surveys
Estimate of total surveys that will affect timber supply (A) 0

Surveyed area that will affect timber supply 249
Replace with (A) if a more exact estimate is calculated

Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002

Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)
Estimate area that will be classified as free growing after a survey in 2001/2002

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Mid Coast TSA
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	30	0	249	0	30	231	150	140	0	830	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	1,502	0	4,043	0	3,705	3,754	0	0	0		13,004
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	3	0	25	0	60	603	594	636	0	83	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	3	3	4	0	0	11
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Mid Coast TSA
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	505	400	325	250	225	1,185	598,300
Planning, prescriptions and seedlings							0
Backlog Program Field Activities	800	0	0	0	0	530	424,000
Planning, prescriptions and seedlings							8,750
Totals	1,305	400	325	250	225		1,031,050

Performance Measures

Potential total merchantable volume increment in 65 years	13,004 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	11 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Mission TFL 26

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Mission TFL 26
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	150	150	150	150	150	55.00	8250	1
Spacing	93	55	40	40	40	1100.00	102300	1
Pruning	36	45	60	60	60	1083.33	39000	2
Fertilizing	0	200	0	200	0	0.00	0	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	279	450	250	450	250	536.02	149,550	
Planning and prescriptions							5,000	1
Total dollars							154,550	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	150	150	150	150	150	55.00	8,250	
Spacing	93	55	40	40	40	1,099.99	102,300	
Pruning	36	45	60	60	60	1,083.30	39,000	
Fertilizing	0	200	0	200	0	0.00	0	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	279	450	250	450	250	536.01	149,550	
Planning and prescriptions							5,000	
Studies funding							0	
Total dollars							154,550	

12/28/2005

Mission TFL 26
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							0	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Mission TFL 26
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			150
Total backlog surveys from the backlog table.			0
33% of all silviculture surveys			50
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			0
Estimate area of free growing surveys			0
Estimate area of pre-stand tending surveys			150
Estimate of total surveys that will affect timber supply			(A) 150
Surveyed area that will affect timber supply			150
Replace with (A) if a more exact estimate is calculated			
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)			
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)			
Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Mission TFL 26
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	150	0	0	0	93	36	0	279	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	2,438	0	0	0	0	0	0		2,438
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	15	0	0	0	368	163	0	28	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	2	1	0	0	3
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Printed 12/28/2005 11:05 AM

Mission TFL 26
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	279	450	250	450	250	536	149,550
Planning, prescriptions and seedlings							5,000
Backlog Program Field Activities	0	0	0	0	0	0	0
Planning, prescriptions and seedlings							0
Totals	279	450	250	450	250		154,550

Performance Measures

Potential total merchentable volume increment in 65 years	2,438 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	3 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

FORESTRY DEPARTMENT

September 25, 1998
File: FOR.OPE.VAG.
Incremental Silviculture Strategic Plan

Craig Wickland, RPF
Silviculture Forester,
Ministry of Forests, Chilliwack District
9850 South McGrath Road, Box 159
Rosedale, B.C.
VOX 1XO

Dear Craig:

Attached is the District of Mission's Incremental Silviculture Strategy (ISS) requested in the Regional Manager's July 23 letter to TFL licencees. The ISS was prepared in accordance with this letter and also using the Arrowsmith TSA ISS as a partial guideline.

Please call me at 820-3764 if you require further information.

Yours truly,

Kim Allan, R.P.F.
Director of Forest Management

forestry\kim\inc_silv

8645 STAVE LAKE STREET { BOX 20 { MISSION, B.C. { V2V 4L9 { 820-3762 { Fax 826-8633
www.city.mission.bc.ca

INCREMENTAL SILVICULTURE STRATEGY
for
TREE FARM LICENCE 26,

submitted for approval to the

District Manager
Chilliwack Forest District
Ministry of Forests

by

District of Mission
33835 Dewdney Trunk Road
Box 20
Mission, BC
V2V 4L9

September 25, 1998

1) EXECUTIVE SUMMARY

Mission TFL 26 has many attributes that favour enhanced forestry activities:

i.)community forest managed by a municipality so employment and enhancement of the local forest land base is a key economic and social factor.

ii.)over 85% of the land base is medium or good site favouring enhanced forestry investment

iii.)many plantations are overstocked from heavy natural fill-in so will benefit from silvicultural improvement

iv.)large current reliance on second-growth forests for harvesting

v.)a history of performing enhanced forestry activities

Product objectives have been identified in the TFL's current Management plan which favour enhanced forestry activities. As a result, a program of surveys, prescriptions, spacing, pruning and fertilizing is listed in Appendix A.

1) BASIC DATA FOR TFL 26 (FROM MP #7)

i.)**Total land area** is 10,414 hectares although only 8,057 is considered **net productive** forest land.

ii.)The **current AAC** is 45,000 cubic metre per year. This is partitioned as follows:

{40,398 m^3 for conventional coniferous harvesting areas

{3,000 m^3 for deciduous harvesting areas

{1,602 m^3 for SBFEP harvesting areas. Although, Mission does not harvest this area, the plantations revert back to the TFL once free growing is achieved by the MOF so incremental silviculture work by Mission still applies.

iii.)The current **harvest forecast** is that the AAC will not change for 50 years, then drop minimally by 2.9% for the next 50 years and then climb to a level 16.5% above the current AAC 140 years from present and stay that way thereafter.

iv.)**Site class profile** of the net land base is:

{Good = 24.0%,

{Medium = 62.2%

{Poor = 13.8%

v.)The Age Class Profile of the Long Term Harvesting Land Base is:

{Age Class 1 (1-20)= 1,648 ha.

{Age Class 2 (21-40)= 909 ha.

{Age Class 3 (41-60)= 2,552 ha.

{Age Class 4 (61-80)= 1,772 ha.

{Age Class 5 (81-100)= 400 ha.

{Age Class 6 (101-120)= 293 ha.

{Age Class 7 (121-140)= 188 ha.

{Age Class 8 (141-250)= 168 ha.

{Age Class 9 (251+)= 98 ha.

vi.)Tree Species Profile of the Long Term Harvesting Land Base is:

{ Hemlock= 4,660 ha.

{Douglas-fir= 2,009 ha.

{Cedar/Cypress= 1,184 ha.

{Balsam= 176 ha.

1) ISSUES

The only issues identified by the MOF Chief Forester in the AAC determination of current MP #7 was for Mission to examine Operational Adjustment Factors for Douglas-fir plantations and to examine the estimate of unsalvaged losses for the TFL. Neither issue is relevant to the issue of incremental silviculture planning.

The harvest forecast information listed in the Basic Data section above shows that the timber supply will decline between 50 to 100 years from now. Even though the declines will not be heavy, there is a need to consider scheduling forest management treatments to favour an increased timber flow during this period.

Almost all the timber currently harvested from TFL 26 results from unmanaged second growth stands. As such, TFL 26 is not faced with 'stepping down' from old-growth to second growth quality. However, future harvesting will rely more on managed second growth so there will be somewhat of a shift in log size and quality from present.

MP #7 identifies a concern with significant mistletoe infections degrading the quality of older second growth hemlock leading stands in the TFL. As such, forest management practices should consider decreasing the amount of dense, hemlock leading stands. A future trend in this regard will be to regenerate harvested areas with a greater amount of Douglas-fir leading plantations as shown in MP #7.

MP #7 identifies that silviculture activities have played a strong role in forest management of the TFL since it was awarded in 1958. Almost all harvested areas have been planted with a small portion being restocked through natural regeneration. An average of 81,000 seedlings per year have been planted in the TFL from 1958 to 1993. This averages about 1,400 seedlings planted per logged hectare over this time period. Consequently, TFL 26 has an insignificant amount of "non-satisfactorily restocked" (NSR) or unstocked areas.

Habitat supply has not been identified as a specific issue in TFL 26.

1) INCREMENTAL SILVICULTURE HISTORY

The following chart shows the history of planting, spacing and pruning since the beginning of TFL 26.

Year	# Seedlings Planted	# Hectares Spaced	# Hectares Pruned
1958	0		
1959	0		
1960	35,500		
1961	50,500		
1962	119,000	2	
1963	93,000		
1964	63,000	2	
1965	52,000		
1966	109,000		
1967	109,000		3

Year	# Seedlings Planted	# Hectares Spaced	# Hectares Pruned
1968	77,500		9
1969	101,500		12
1970	77,000		130
1971	133,000		
1972	156,000		
1973	148,000		
1974	112,000		
1975	126,000		16
1976	157,500		
1977	173,000		
1978	175,000		
1979	64,400		
1980	87,000		
1981	51,650	5	
1982	46,120	5	
1983	35,000	10	
1984	30,995	10	
1985	0	41	
1986	6,835	33	
1987	111,210	93	5
1988	54,015	9	
1989	39,630	33	
1990	106,785	72	36
1991	76,260	85	1
1992	80,130	25	
1993	49,353	74	
1994	42,866	15.2	23.3
1995	98,520	84.6	90.7
1996	67,150	48.6	28.4
1997	36,427	36.2	5.2
Total	**3,151,846**	**683.6**	**359.6**

In addition, approximately $100,000 has been allocated from FRBC to Mission and planned to be spent during the 1998/99 fiscal year on enhanced forestry activities.

1) MANAGEMENT PLAN #7 SILVICULTURAL OBJECTIVES AND STRATEGIES

Current MP #7 for TFL 26 states the following as the TFL's overall silvicultural objective:

{*To apply silvicultural treatments and other management practices to the forest lands so that an optimum mixture of harvestable size, high quality wood products and short rotations is* *achieved within the constraints imposed by maintaining and enhancing the productive forest land base and the diversity of species.*

Current MP #7 for TFL 26 states the following regarding preferred log profiles and strategies to obtain these:

{*In regard to product mix, TFL 26 does not have supply arrangements with any particular processing facility. Mission generally sells logs on the open market primarily for economic considerations. Mission believes the best strategy is:*

ˆ*Sustained timber flow is the most important consideration;*

ˆ*When sustained timber flow is reasonably met, Mission generally desires to produce sawlogs. Using the harvesting criteria in section 2.5.5.2, most stands without incremental silviculture will produce mean diameters from 33 to 42 cm. with an average of approximately 37 cm. (considering trees larger than 17.5 cm. diameter). Mission will seek funds for incremental silviculture and when this funding is obtained, work will be performed as detailed in section 2.6.5, resulting in an increased mean diameter corresponding to the level of incremental work performed. As such, Mission feels the mean diameter of most harvested trees will be conservatively 40 cm.*

ˆ*Mission will also seek funds to prune an estimated average 300 stems per hectare in most spaced, medium and good site, Douglas-fir leading plantations thereby creating clear wood on the larger, prime crop trees in these areas.*

{*Incremental silviculture activities which produce high value lumber and value added specialty products are generally economically feasible to conduct in many parts of TFL 26 due to:*

ˆ*Close access to markets,*

ˆ*Generally moderate terrain, and*

ˆ*Highly productive growing sites.*

{*Where favourable site conditions exist, future timber values can be optimized by applying proven stand tending treatments. Funding for these treatments will be sought from various sources.*

{*TFL 26 has already implemented a relatively high level of spacing (pre-commercial thinning) and other forms of incremental silviculture activities. When external funding is obtained, incremental silviculture activities:*

ˆ*Have been and will continue to be concentrated on the more productive sites. Treatments with uncertain benefits, or which may increase timber volume without necessarily improving the net stand value, will be lower priority.*

ˆ*will generally concentrate on spacing first, pruning second and fertilization third but this order may be varied where specific circumstances justify otherwise.*

ˆ*will be employed to generally produce the desired sawlog profile stated above.*

Current MP #7 for TFL 26 states the following regarding the funding of incremental silviculture programs in TFL 26:

{*While Mission is very interested in carrying out incremental silviculture whenever funding sources are available, it is not prepared to make a long term commitment to a specific level of work regardless of funding. As a result, analysis options have not assumed incremental silviculture beyond the past work which has already affected stand development.*

{*In regard to incremental silviculture activities, Mission will follow the current approved guidelines in the "Vancouver Forest Region Stand Tending Guidelines".*

{*MP #7 identifies that a portion of certain Analysis Units (mainly hemlock, cedar and deciduous leading) are intended to be regenerated after harvesting more to Douglas-fir leading units. A description of all Analysis Units and their corresponding species types is detailed in Table 7, Appendix A of the Timber Supply Analysis located in Appendix V of Volume I of MP #7.*

1) OPPORTUNITIES TO IMPROVE TIMBER QUALITY

i.)Product Objectives

{Premium log: 45+ cm DBH, pruned Douglas-fir or 120+ years for unpruned Douglas-fir

{Sawlog: average DBH of 25 cm and minimum volume of 400 m3/ha

ii.)Potential Treatments

{spacing, commercial thinning, pruning or combinations or these

iii.)Potential Strategies by Response Time Frame to Improve Timber Quality

{Short Term (1-20 years): None.

{Mid Term (21-150 years): Prune spaced stands, primarily concentrating on Douglas-fir stems with average anticipated at 350 stems/hectare pruned. Anticipated result is for 15% of future harvest volume to consist of premium logs.

{Long Term (151+ years):As above.

iv.)Timber Quality Forecast Scenarios: magnitude is currently unknown although pruning is widely acknowledged to improve timber quality when done correctly.

2) INCREMENTAL SILVICULTURE PROGRAM

i.)see Appendix A

3) REFERENCES

˙Management Plan #7 for TFL 26

Appendix A

1999/2000 Enhanced Forestry Program

Stand Tending Activities	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	Avg. Cost per ha.	1999/2000 Funding Required
Plan/ surveys/ prescrip.	80	80	80	80	80	30	$2,400
Spacing	50	50	50	50	50	$1,500	$75,000
Pruning	30	30	30	30	30	$1500	$45,000
Fertilizing	0	0	200	200	200	$250	n/a
Totals	160	160	360	360	360		**$122,400**

Schedule of Proposed Treatments

Location	Treatment	Target Stands	Area (Ha.)	Cost Estimate	Rationale
Mission TFL 26	Spacing	P564, P378, P315/321, P1108, P306, P 592, P369, P391, P393 and P384	50	$75,000	all overstocked, young plantations on medium or good site. Spacing will favour good pruning investment in D-f leading stands and eventual commercial thinning options will be greatly enhanced
Mission TFL 26	Pruning	P564, P378, P306, P592	30	$45,000	young, spaced D-f leading plantations on medium or good site. Pruning to be done on trees planned to remain after eventual commercial thinning

Note: Estimating costs under the new Forest Renewal, New Forest Opportunities system is very difficult. At the time of preparing this plan, actual bid prices in the Chilliwack Forest District were coming in more than double for similar units which had previously been done by regular commercial silviculture contractors. It is hoped that bid prices will not continue to stay this high. Consequently, significantly higher prices are used to calculate costs than what would have been used under the old system but the prices are less than the 2x bids currently being experienced.

Also, the above listed blocks are identified and plotted candidate blocks. The actual blocks picked from this group will depend on what gets accomplished in the current fiscal year and what next year's bid prices come in at.

Summary Regime Table Format: District of Mission, TFL 26

Regime Table, TFL 26, August 2000

Regimes	ha/yr	Timber Supply Effects			Quality	Habitat			Direct Silv Jobs Days/ ha	Cost $/ha	Rank (1,2,3)
		Short	Medium	Long		OG	Rip	Wlife			
1.Backlog Brushing	0	+	0	+	0	0	0	0	1	1000	n/a
Spacing											
2. Surveys	110	0	0	+	0	0	0	0	0.1	55	2
CT Regimes											
3. Fd M -G sites >1600 to 700 (1 entry CT)	62	0	+	0	0	+	0	+	4	1000	2
4. Hw M -G sites >3000 to 700 (1 entry CT)	31	0	+	0	0	+	0	+	4	1300	2
non CT Regimes											
5. HB,HF/HC M-G sites, >3000 to 700-800	0	0	+	0	0	+	0	+	4	1400	2
Pruning											
6. Surveys	40	0	0	+	0	0	0	0	0.1	55	3
7. Fd leading- first lift	30	0	0			0	0	0	4.5	1050	3
		0			++						
8. Fd leading- second lift	6	0	0			0	0	0	5	1250	3
		0			++						
Fertilization											
Fd SI 23-30, moisture >1 <6											
9. post CT (age 40 -55)	0	0	+	+	+	+	0	0	0.2	300	2
10. age class 3&4, normal harvest	0	+	0	0	+	+	0	0	0.2	300	2
11. spaced age class 1 & 2	0	0	+	+	+	+	0	0	0.2	300	2

Notes

1 General Ranking: H =1 & 2; M = 3; L = 4 & 5

Table 1.0.0: Port McNeill Forest Districts Total (TSA + TFL)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	4355	4520	4000	4520	3970	41.07	178875	
Spacing	640	640	590	640	590	2151.56	1377000	
Pruning	705	550	480	450	450	2739.00	1931000	
Fertilizing	5750	6000	4550	5100	4550	339.62	1952791	
Other	98	98	98	98	98	2563.97	250000	
Totals hectares	11548	11808	9718	10808	9658	492.72	5,689,666	
Planning and prescriptions							151,000	
Total dollars							5,840,666	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	50	50	50	50	#DIV/0!	0	
Totals hectares	0	50	50	50	50	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	30	35	35	35	35	2,499.58	75000	
Non-riparian treatments	40	0	0	0	0	2,149.79	86000	
Totals hectares	70	35	35	35	35	2,299.70	161,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	4355	4520	4000	4520	3970	41.07	178,875	
Spacing	640	640	590	640	590	2,151.54	1,377,000	
Pruning	705	550	480	450	450	2,738.98	1,931,000	
Fertilizing	5750	6,000	4,550	5,100	4,550	339.62	1,952,791	
Other stand tending activities	168	183	183	183	183	2,453.44	411000	
Totals hectares	11618	11710	9620	10710	9560	503.61	5,850,666	
Planning and prescriptions							151,000	
Studies funding							218000	
Total dollars							6,219,666	

Table 1.1.0: Port McNeill Forest Districts (Total TSA)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	1075	840	820	940	790	41.28	44375	1
Spacing	200	120	120	120	120	2050.00	410000	2
Pruning	175	20	50	20	20	2428.57	425000	3
Fertilizing	700	600	550	700	550	385.71	270000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	2150	1580	1540	1780	1480	534.59	1,149,375	
Planning and prescriptions							36000	1
Total dollars							1,185,375	

Forest Health Enhancement

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	#DIV/0!	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	0	0	0	0	0	0.00	0	1
Non-riparian treatments	0	0	0	0	0	0.00	0	1
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1075	840	820	940	790	41.28	44,375	
Spacing	200	120	120	120	120	2,049.98	410,000	
Pruning	175	20	50	20	20	2,428.54	425,000	
Fertilizing	700	600	550	700	550	385.71	270,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	2150	1580	1540	1780	1480	534.59	1,149,375	
Planning and prescriptions							36,000	
Studies funding							0	High
Total dollars							1,185,375	

Table 1.2.0: Port McNeill Forest Districts (Total TFL)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	3280	3680	3180	3580	3180	41.01	134500	
Spacing	440	520	470	520	470	2197.72	967000	
Pruning	530	530	430	430	430	2841.50	1506000	
Fertilizing	5050	5400	4000	4400	4000	333.23	1682791	
Other	98	98	98	98	98	2564.02	250000	
Totals hectares	9398	10228	8178	9028	8178	483.14	4,540,291	
Planning and prescriptions							115,000	
Total dollars							4,655,291	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	50	50	50	50	0.00	0	
Totals hectares	0	50	50	50	50	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	30	35	35	35	35	2,499.75	75000	
Non-riparian treatments	40	0	0	0	0	2,149.89	86000	
Totals hectares	70	35	35	35	35	2,299.84	161,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	3280	3680	3180	3580	3180	41.01	134,500	
Spacing	440	520	470	520	470	2,197.70	967,000	
Pruning	530	530	430	430	430	2,841.48	1,506,000	
Fertilizing	5050	5,400	4,000	4,400	4,000	333.23	1,682,791	
Other stand tending activities	168	183	183	183	183	2,453.50	411000	
Totals hectares	9468	10130	8080	8930	8080	496.57	4,701,291	
Planning and prescriptions							115,000	
Studies funding							0	
Total dollars							4,816,291	

Table 2.0.0: Port McNeill Forest Districts Total (TSA + TFL)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	70	0	70	0		0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	70	0	0	0	0	1,399.90	98000	
Brushing	0	0	70	0	70	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	70	70	70	70	70	1,399.56	98,000	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							98,000	
Backlog Reforestation								
Surveys	3950	2015	1800	1800	1700	25.00	110375	
Site preparation	70	55	100	0	0	985.66	69000	
Planting	125	205	105	5	5	2,601.92	325250	
Brushing	60	55	5	0	0	999.92	60000	
Totals hectares	4205	2330	2010	1805	1705	134.27	564,625	
Seed purchase	47000	5000	0	0	0	0.38	18000	
Prescriptions and planning dollars							6,500	
Total backlog reforestation							589,125	
Impeded areas								
Surveys	3450	2025	1625	1375	1275	25.00	106250	
Brushing	1445	1010	910	760	710	600.00	1223500	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	4895	3035	2535	2135	1985	271.65	1,329,750	
Prescriptions and planning dollars							61500	
Total impeded areas							1,391,250	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	45	45	45	45	45	1,500.00	157500	
Reforestation	10	10	10	10	10	600.00	30000	
Totals hectares	55	55	55	55	55	3,408.29	187,500	
Seed purchase	4000	4000	4000	4000	4000	0.02	80	
Prescriptions and planning dollars							1000	
Total site restoration							188,580	
Backlog Program Activities - Management Unit Total								
Surveys	7400	4110	3425	3245	2975	29.27	216625	
Site preparation	115	100	145	45	45	1,969.33	226500	
Planting	205	215	115	15	15	2,210.78	453250	
Brushing	1505	1065	985	760	780	852.82	1283500	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	9225	5490	4670	4065	3815	236.30	2179875	
Seed purchase	51000	9000	4000	4000	4000	0.35	18080	
Prescriptions and planning							69,000	
Recommended studies							32000	
Total backlog program							2,298,955	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Table 2.1.0: Port McNeill Forest Districts (Total TSA)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	2150	1515	1500	1500	1500	21.80	46875	High
Site preparation	65	50	100	0	0	999.98	65000	
Planting	115	195	100	0	0	2,732.58	314250	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	2330	1760	1700	1500	1500	182.89	426,125	
Seed purchase	42000	0	0	0	0	0.36	15000	
Prescriptions and planning dollars							6,500	
Total backlog reforestation							447,625	
Impeded areas								
Surveys	950	750	675	675	675	46.05	43750	High
Brushing	800	600	550	550	550	950.00	760000	High
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1750	1350	1225	1225	1225	459.29	803,750	
Prescriptions and planning dollars							28000	High
Total impeded areas							831,750	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	High
Reforestation	0	0	0	0	0	0.00	0	High
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	High
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	3100	2265	2175	2175	2175	29.23	90625	
Site preparation	65	50	100	0	0	999.92	65000	
Planting	115	195	100	0	0	2,732.44	314250	
Brushing	800	600	550	550	550	950.00	760000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	4080	3110	2925	2725	2725	301.44	1229875	
Seed purchase	42000	0	0	0	0	0.36	15000	
Prescriptions and planning							34,500	
Recommended studies							32,000	1
Total backlog program							1,311,375	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Table 2.2.0: Port McNeill Forest Districts (Total TFL)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	70	0	70	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	70	0	0	0	0	1,399.94	98000	
Brushing	0	0	70	0	70	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	70	70	70	70	70	1,399.72	98,000	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							98,000	
Backlog Reforestation								
Surveys	1800	500	300	300	200	35.28	63500	
Site preparation	5	5	0	0	0	799.52	4000	
Planting	10	10	5	5	5	1,099.67	11000	
Brushing	60	55	5	0	0	999.93	60000	
Totals hectares	1875	570	310	305	205	73.87	138,500	
Seed purchase	5000	5000	0	0	0	0.60	3000	
Prescriptions and planning dollars							1500	
Total backlog reforestation							143,000	
Impeded areas								
Surveys	2500	1275	950	700	600	25.00	62500	
Brushing	645	410	360	210	160	718.60	463500	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	3145	1685	1310	910	760	167.25	526,000	
Prescriptions and planning dollars							33500	
Total impeded areas							559,500	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	45	45	45	45	45	3,499.84	157500	
Reforestation	10	10	10	10	10	2,999.40	30000	
Totals hectares	55	55	55	55	55	3,408.66	187,500	
Seed purchase	4000	4000	4000	4000	4000	0.02	80	
Prescriptions and planning dollars							1000	
Total site restoration							188,580	
Backlog Program Activities - Management Unit Total								
Surveys	4300	1845	1250	1070	800	29.30	126000	
Site preparation	50	50	45	45	45	3,229.42	161500	
Planting	90	20	15	15	15	1,544.26	139000	
Brushing	705	465	435	210	230	742.55	523500	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	5145	2380	1745	1340	1090	184.64	950000	
Seed purchase	9000	9000	4000	4000	4000	0.34	3080	
Prescriptions and planning							36,000	
Recommended studies							0	
Total backlog program							989,080	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Table 1.1.1: Port McNeill Forest Districts TSA (without A19240)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	700	700	700	700	700	50.00	35000	5
Spacing	100	100	100	100	100	1600.00	160000	5
Pruning	100	0	0	0	0	2000.00	200000	6
Fertilizing	500	500	500	500	500	300.00	150000	3
Other	0	0	0	0	0	0.00	0	
Totals hectares	1400	1300	1300	1300	1300	389.29	545,000	
Planning and prescriptions							21,000	5
Total dollars							566,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	#DIV/0!	0	0
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	700	700	700	700	700	50.00	35,000	
Spacing	100	100	100	100	100	1,599.98	160,000	
Pruning	100	0	0	0	0	1,999.98	200,000	
Fertilizing	500	500	500	500	500	300.00	150,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	1400	1300	1300	1300	1300	389.28	545,000	
Planning and prescriptions							21,000	
Studies funding							0	0
Total dollars							566,000	

Table 1.1.2: Western Forest Products Limited, FL A19240
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities

Stand Tending

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	375	140	120	240	90	25.00	9375	1
Spacing	100	20	20	20	20	2500.00	250000	2
Pruning	75	20	50	20	20	3000.00	225000	2
Fertilizing	200	100	50	200	50	600.00	120000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	750	280	240	480	180	805.83	604,375	
Planning and prescriptions							15,000	1
Total dollars							619,375	

Forest Health Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	375	140	120	240	90	25.00	9,375	
Spacing	100	20	20	20	20	2,499.96	250,000	
Pruning	75	20	50	20	20	2,999.96	225,000	
Fertilizing	200	100	50	200	50	600.00	120,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	750	280	240	480	180	805.83	604,375	
Planning and prescriptions							15,000	
Studies funding							0	
Total dollars							619,375	

Sustainable Harvest Component of the Port McNeill Forest District 2001/2002 Resource Management Plan

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1.2 Introduction

1.2.1 Resource Management Plan:

The mandate of Forest Renewal BC is to plan and implement a program of investment to renew the forest economy of British Columbia by enhancing the productive capacity and environmental values of forest lands, and by creating jobs, providing training for forest workers, and strengthening local communities that depend on the forest industry.

The purpose and functions of the Ministry of Forests are, among other, to encourage maximum productivity of the forest and range resources in the province; manage, protect and conserve the forest and range resources of the Crown while having regard to the immediate and long term economic and social benefits they may confer on the province. The Ministry is also charged with planning the use of forest and range resources of the Crown, so that the production of timber and forage, the harvesting of timber, grazing of livestock and the realization of fisheries, wildlife, water, outdoor recreation and other natural resource values and co-ordinated and integrated, in consultation and co-operation with other ministries and agencies of the Crown and the private sector.[1]

Resource Management Plans are intended to establish resource objectives and resource priorities identify resource investment opportunities by activity and anticipated resource outputs, as well as any critical work to be done in the next fiscal year. This Resource Management Plan represents the sustainable harvest component for the Port McNeill Forest District planning unit.

1.2.2 Port McNeill Forest District's RMP:

The Port McNeill Forest District covers an area of approximately 1.8 million hectares with an annual harvest of just over 5 million cubic meters of wood. The Port McNeill Forest District has six Tree Farm Licenses (TFL) and one Timber Supply Area (TSA). For resource planning purposes the district was divided into logical management units following the boundaries of Tree Farm Licenses and the Kingcome Timber Supply Area.

---

[1] Ministry of Forests Act, Section 4, 1979

Management Unit Summary Port McNeill District

Table 1.3.0

Management Unit Tenure	Licensee	AAC
TSA - Kingcome	Various Licensees	1 488 885
TFL 37	Canadian Forest Products Ltd.	1 068 000
TFL 45	International Forest Products Limited	130 000
TFL 39	Weyerhaeuser	415 000
TFL 47	TFL Forest Ltd.	230 000
TFL 6	Western Forest Products Limited	1 490 000
Total	Includes additional woodlots and misc	5 121 706

1.2.3 Port McNeill Forest District's TSA Portion:

Resource Management Planning

An incremental silviculture strategy was developed for the Kingcome TSA using the Ministry of Forests, "Guidelines for the Development of Resource Management Plans for 2001 – 2002". All TFL Licensees also followed this guidance.

The Incremental Silviculture Strategies for all Management Units were summarized to show all goals and funding required for each activity by program for the five year planning period as seen in Table 1.0.0. Despite the ranking within each management unit, the Port McNeill Forest District continues to overall rank activities for the planning unit as follows:

Rank#

1. Cage Maintenance (rolled into planting on Backlog Program Table)
2. Conifer Release/Brushing
3. Backlog NSR
4. Fertilization
5. Expanding the Timber Harvesting Landbase
6. Juvenile Spacing
7. Pruning

Choosing to fund activities in this order will have the greatest timber supply benefits overall for the planning unit.

The following is a brief explanation as to the specifics on where the PMFD anticipate 2001/2002 funding within the TSA to be focused. It does not include A19240, however, any subsequent TSA tables will specify whether the numbers exclude or include Western Forest Products forest license:

Enhanced Program:

Survey	700 ha – required to obtain accurate data, field layout and SMPs for all incremental activities listed below.
Spacing	100 ha: West of William Lake.
Pruning	100 ha: Scattered throughout the district. In the last few years very little spacing has been funded on the TSA, consequently, this will be the last year in which pruning will be available. Nothing is coming on line and area that is available is rapidly falling outside of the treatable time window.
Fertilizing	500 ha: 350ha exist around the Nahwitti Lake area, the remaining 150 is remaining ground that was never treated in the Dick Booth drainage in March of 98.
Forest Health	This is a district wide program that assists region in disseminating and collecting pheromone traps. In addition, recent flights have examined drainages for any potential black headed budworm outbreaks. Mountain Pine beetle is a problem on the Chilcotin Plateau and a proper monitoring program must be maintained to prevent spread into our district which currently has a timber supply issue.

Backlog Program

Surveys – Backlog Reforest	2125ha – • During the 2000 field season, PMFD staff discovered an area where wire cages have been left too long on crop trees. A further examination revealed a total of 150ha throughout Malcolm Island, 50 of which is in critical need of surveys and immediate removal. The other 100ha need to be surveyed and a treatment prescribed. • Surveys and fill planting on Gilford Island is necessary to raise stocking above MSS on 37 ha. • 50ha is scattered NSR throughout the district. • 125ha is follow up regen surveys to monitor the success of planting NSR areas on Malcolm Island over the past 3 years. • ~ 263 ha of free growing surveys on Richply's Nahwitti cutblocks. • The remaining 1500ha are scheduled for heli flights (at approximately $10/ha) and are used for planning purposes.

Site Prep	65ha – Western Forest Products is in the process of surveying 65ha of NSR ground that will be developed into backlog SPs and treatment areas
Planting	115ha – 65ha of which of site prep, plant, cage and fertilize on Malcolm Island Another 37ha on Gilford Island that was planted in 1999 but due to mortality fell below MSS or is borderline (250 st/ha of fill planting will suffice). The remaining 12.5ha are critical areas on Malcolm Island that need cage removal immediately. This accounts for the remainder of the funding being requested. It should be noted that cage removal is anticipated on average to cost 700 $/ha , to delay this treatment could result in the plantation failing and having to restart at an expense of 3500 $/ha
Surveys – Impeded Areas	800ha – Located in Jennis Bay and throughout Buck Creek. From survey work it is anticipated that stratification will net the treatable area down to 700.
Brushing – Impeded	700ha – See survey work identified above.

Product Objectives and Means

WORKING TARGETS

The Kingcome TSA has limited ability to overcome forecast reductions in both timber quantity and quality.

Quantity: Maintain short term harvests at near-current levels (TSR 1 AAC of approx. 1.4 million m^3/yr) for as long as possible. Manage mid-term timber supplies to yield a harvest of approximately 1.0 million m^3/yr and long term supplies to yield 1.3 million m^3/yr.

Quality: Manage regenerated stands to yield at least 4% premium logs by volume, with the majority of the remainder being of sawlog quality.

Product Objectives

The following are product objectives at the log level for the Kingcome TSA.

Pr Log: Hemlock 60+ cm DBH, clear, min 5 m log, not less than 3-4 rings/cm on M/P sites and 2-3 rings/cm on G sites.

Cedar pole 45+ cm min DBH, min 20 m log, low taper, min 20 cm top.

Balsam 60+ cm DBH, clear, min 5 m log.

Sawlog: Minimum average stand DBH of 45 cm and min. stand vol. of 350 m^3/ha.

Major Silvicultural Strategies

Quantity

(Some of the following are not within the traditional scope of incremental silviculture but are included here for completeness.)

1. Increase regenerated stand yields 20%, and achieve green-up 3 years earlier by:
    - reducing time to regeneration by 2 years by planting all areas;
    - using (2nd gen) A class seed or better (requires tree improvement for Balsam);
    - using large planting stock, and/or individual tree fertilizing at planting, and/or seedling protection;
    - brushing for growth enhancement; and
    - fertilizing 500 ha/yr of cedar-salal sites to achieve early crown closure.
2. Implement partial harvesting regimes in VQ zones.
3. Expand the timber harvesting land base by:
    - rehabilitating the remaining 300 ha of backlog NSR and brushing (conifer release) 3000 ha of backlog plantations;
    - draining low-site wet lands (10 ha trial); and
    - assessing opportunities for rehabilitating non-commercial alder stands back into conifer production.

Quality

1. One-lift prune (3.5 m) 100 ha/yr.
2. Manage selected stands to higher densities to yield pole-sized trees.

Space 100 ha/yr to increase avg. piece sizes and prepare stands for pruning and commercial thinning.

1.2.4 Port McNeill Forest District's TFL Portion (Key Participants):

The following is a summary of the Incremental Silviculture Strategy for each Management Unit:

1.2.4.1 TFL 37 - Canadian Forest Products Ltd.

The following information is summarized from Canadian Forest Products' TFL 37 Management Plan 8 and is intended to supplement the licensees Resource Management Plan attached in section Appendix II.

Basic Data

Canadian Forest Products' TFL represents the southern most portion of the Port McNeill Forest District. It encompasses 188,745 hectares of which 54 percent are considered within the net operable landbase for the long term. The Allowable Annual Cut (AAC) is 1,068,000 m^3 making it the second largest cut on the North Island.

Management Issues

The key issues affecting timber supply from a timber quantity, quality and forest health perspective are addressed in detail within the Timber Supply Analysis. The MOF base case scenario indicates a reduction (of 33,800 m^3) in annual harvest to 1,034,200 m^3 in year 21. Harvest remains at this level until 121 years when AAC is forecast to increase 137,900 m^3 to 1,172,100 m^3. Key factors influencing short-term harvest levels are:

- The amount of mature timber on the TFL.
- The timing of the availability of managed stands for harvest.
- Green-up requirements tying up adjacent timber

The sensitivity analyses and accompanying tables and figures are in Appendix II.

Resource Objectives

Timber

Management Plan 8 specifies attributes of future managed stands. This includes log grades, (premium, standard, gang and utility) target and minimum stand volumes and piece sizes. Target stand attributes were constructed for each BEC site series on the TFL.

Habitat

Opportunities exist to improve habitat quality in riparian zones and ungulate winter range areas. Juvenile spacing promotes increased growth in streamside conifers, which will allow faster recruitment of desired streamside habitat characteristics such as stable banks, provision for shade and large organic debris. Spacing and pruning regimes have been shown to increase forage availability in ungulate habitats. The Vancouver Island Land Use Plan has identified high priority areas for such treatments in the Tsitika/Woss Special Management Zone.

Opportunities to Increase Timber Supply

Enhanced forestry activities contribute significantly to increasing timber quantity, in particular fertilization and tree improvement. Long-term research results indicate that multiple fertilization treatments result in significant increases in merchantable volume over a rotation. Weetman et al (1997) report that Fd stands fertilized on 8 year intervals over an 80 year rotation will yield a 13 percent increase in merchantable volume and will provide a 7 percent return on invested funds.

Based on these results, multiple treatments of urea on Fd leading stands is proposed as a high priority throughout the specified planning horizon. One can see the implications of enhanced forestry work on timber supply within the detailed strategy section of TFL 37. Clearly there is a benefit in the medium term and dramatic increase in the long term.

In addition, SCHIRP fertilization of 1,500 ha/yr of stagnated younger Fdc, Hw and Cw stands is proposed to promote faster crown closure and out-compete salal. This will be the most cost-effective treatment, which will ensure productivity levels are maintained or even enhanced over the course of a rotation.

Although not depicted in Appendix II because of its low chances of approval, Canadian Forest Products believes the greatest influence Forest Renewal BC can have on increasing timber supply is by funding “Incremental to Basic” activities, in particular fertilizing in Salal. Funding is meant to supplement existing money currently being spent by licensees to get stands to free growing status. Improving stock that is going into the ground, fertilizing, fill planting etc. In the event Forest Renewal BC changes policy and allows incremental to basic activities to be funded, Canadian Forest Products request that consideration be given to their proposal.

Opportunities to Improve Timber Quality

Canadian Forest Products recognizes the importance of enhanced forestry in achieving quality. Pruning produces a bole of a specified length free from knots. Spacing criteria allows deformed trees poor in form and growth to be selected out early in the rotation. While these treatments will increase the proportion of higher quality sawlogs, it is uncertain whether the returns will justify investment levels.

Critical Projects

Critical projects include those that ensure the continued success of First Nations Partnerships and the North Island Community Forestry Program. Canadian Forest Products has little to no backlog work due to their aggressive management in the past and present. Consequently, their requests focus on incremental work, in particular fertilizing (see Table 1.2.2).

Incremental Silviculture Program

The Silviculture program is outlined in the attached tables found within Appendix II. Priority works include fertilization & backlog surveys. Canadian Forest Products has maintained a high level of enhanced forestry activities in the past and they wish to continue that trend into the next five year planning period. Below is a table that states the TFL holders rankings and whether MoF agrees with this priority.

Table 1.3.1 Treatment Ranking and MoF Issues with Licensee's Approach (Please see appendix II for submission evaluation)

Program	Ranking	MoF Issues	Historic patterns
Enhanced Work:	1. Fertilizing and Survey work 2. Spacing and Pruning	The MoF concurs with this ranking. Pruning changed from last year's submission of very low to #2; otherwise, all the other rankings remain the same.	Historically, JS & PR goals have been falling since the introduction of the RMP process. This upcoming fiscal goals are in keeping with last years estimates except for fertilizing which has tripled (funding request has doubled). These silviculture treatments were never modelled in the base case of MWP #8; consequently, their ranking seems logical but not substantiated.
Backlog Work	1. Brushing 2. Surveys	The MoF concurs with this ranking. Brushing has moved up from #2 to #1 priority. For clarity, MoF deems any	Historically, brushing goals have been falling due to the aggressive programs in the past. Goals are in keeping

	Backlog work as having higher precedence than Enhanced work.	with last year's estimates. No planting will be done this year, which accounts for the drop in budget of nearly half of last year's request.
Overall: Canfor's proposal is in line with their TFL management plan, chief forester's AAC rationale and the latest TSR. The TSR's greatest issue is mitigating the downfall in AAC over the next 110 years which fertilizing and brushing will accomplish.		

1.2.4.2 TFL 45 - International Forest Products Limited

Basic Data

The Port McNeill Forest district portion of Tree Farm License 45 is located on the lower valley of the Klinaklini River basin as well as several side valleys off the northern section of Knight Inlet. The net-forested land base area of the TFL (in addition to PMFD) is 29,131 hectares, which supports an AAC of 210,000 cubic meters (est 130,000 cubic meters in PMFD alone).

Resource Objectives

The primary goal of the incremental silviculture program is to enhance future harvest opportunities with increased saw-log volume recovery. Forest management activities that will be considered are those that are expected to yield greater volumes of wood with better grades and higher value. Maximize H and I grade saw-logs, or better, suitable for the manufacture of clear appearance, select structural lumber are produced with 50 cm +- 15 cm average DBH for final harvest and 30 cm +-5 cm for commercial thinning.

Opportunities to Increase Timber Supply

Sensitivity analysis show that the timber supply for TFL 45 may be increase by 3 percent if the green up ages could be reduced by 2 years. Four percent gain could be realized if rotation ages could be reduced by 10 years. Fertilization is the single treatment that is likely to meet the above mentioned gains. Site preparation could also have direct positive timber supply gains by adding area to the net operable landbase.

Opportunities to Improve Timber Quality

Interfor's goal is to produce stands that will maximize H and I grade logs, with emphasis on clear wood products. This will best be achieved by juvenile spacing and pruning select stands to ensure achievement of these products.

Critical Projects

a) Backlog - Brushing should be considered as critical projects for all years. Failure to carry out treatment may results in slower tree growth and in some cases result in conifer mortality.

b) Enhanced - An emerging issue is now being identified, which include the condition of juvenile stands exhibiting problems with low densities (40-50 yr. old), root disease and insect damage. Preliminary surveys are considered to identify the problem, make assessments, and provide recommendations in best order of priorities.

c) Natural events – A large natural slide occurred in Glacier Bay (Knight Inlet), which has been assessed and determined to have 70 ha plantable for fibre production. More may be required for slope stability.

Incremental Silviculture Program

The Incremental Silviculture Program is summarized in Table 1.2.2 of Appendix III. Although Interfor has participated in a variety of treatments over the years, there is a shift towards focusing on fertilizing areas and every odd years juvenile spacing some areas.

Table 1.3.2 Treatment Ranking and MoF Issues with Licensee's Approach (Please see appendix III for submission evaluation)

Program	Ranking	MoF Issues	Historic patterns
Enhanced Work:	1. Surveys 2. Fertilizing	The MoF concurs with this ranking. IFP did not give a ranking last year, nor did they apply for TFL funding, consequently, it is difficult to answer whether they are in keeping with previous trends. TFL 45 is anticipated to have a reduction in AAC and fertilizing would be the best way of lessening this impact. It should be noted that their MWP base case assumes 20% of their natural stands are spaced to 800st/ha. IFP needs to integrate this assumption into future RMPs	Historically, IFP never had an extensive incremental program and this year is the same, with the exception of fertilizing. This year they would like to treat 500ha. The base case of their MWP puts very little faith in the effects of fertilizing, consequently this project could have a noticeable effect on mitigating long term AAC downfalls. Given that IFP did not request any funding last year, all requests are up substantially from last year/

Backlog Work	1. Planting, Brushing and Surveys.	The MoF disagrees with this ranking. Planting and Surveys have higher priority than brushing because NSR areas are not contributing to the THLB. For clarity, the MoF deems Backlog work as having higher precedence than any Enhanced work.	Historically, brushing goals have been falling due to aggressive programs in the past. Goals are in keeping with historical estimates, but up considerably from last year which had 0$ proposed.
Overall: Interfor's proposal is in line with their TFL management plan, chief forester's AAC rationale and the latest TSR. The TSR's greatest issue is mitigating the downfall in AAC a decade from now which will see it decrease 10% for 3 decades and then come up. Therefore, short-term treatments are the key to IFPs strategy which fertilizing and spacing can accomplish.			

1.2.4.3 TFL 47 - TFL Forest Ltd.

The following information was summarized from TFL Forest Ltd.'s TFL 47 Management Plan No 2. The priorities, ranking, and rationale for the activities are different from those of the TSA, largely because of the different issues faced by TFL 47 versus the TSA.

Basic Data

TFL Forest Ltd. is a forest company, which operates exclusively in the lumber and logging sector of British Columbia's forest industry. The following information relates to the Bonanza Lake Management Unit.

Block 17 of TFL 47 is located on Vancouver Island north of the Johnstone Strait management unit in the Bonanza Lake drainage. It has an area of approximately 38,000 hectares, but after net downs, the total long term harvestable timber base is approximately 23,000 hectares, with an AAC of 200,000 cubic meters.

Management Issues

The key issues affecting timber supply from a timber quantity, quality and forest health perspective are addressed in the appended Timber Supply Analysis. Issues include the impending fall-down in harvest levels in the short and mid-term, a possible increase in the hemlock component of the species composition, harvest age at culmination of Mean Annual Increment (MAI) versus the shorter first entry age, harvest queuing order based on age, accuracy of site index estimates and managed stand yield curves, and the direct impact on the harvesting landbase from biodiversity requirements. The sensitivity analysis and accompanying tables and figures are in the appended

Timber Supply Analysis. Incremental silviculture does not play a significant role in managing habitat supply at this time.

Resource Objectives

TFL Forest Ltd. has a strategy to create stands, which are predominately small diameter trees with small knots, for sawlog and fibre purposes. Premium logs will continue to come from existing old growth and deferred areas, or areas managed on a long rotation for a variety of reasons.

Opportunities to Increase Timber Supply

Recently there has been considerable debate on the benefits of spacing, including data from some second growth managed stands indicating a decline in volume and a reduction in log quality over natural stands, in some instances.

The current plan is to reduce spacing to a level somewhat below the historic average, to control stocking, maintain or improve growth, or achieve other resource management objectives, such as wildlife forage improvement, market-driven piece sizes, and earlier stand entries. If government funding is available for employment and community stability purposes, TFL Forest Ltd. will consider undertaking spacing projects provided that such treatments do not adversely affect the future value of treated stands.

Fertilization is considered to be the most cost-effective treatment, especially for Cw, Yc and Fd. Fertilization of Hw remains questionable, and suitable sites are lacking in the Bonanza management unit, with the exception of some pre-free growing areas, currently not eligible for Forest Renewal BC funding. These would be the top priority treatment if funding were provided. Very minor amounts of pruning have also been carried out in recent years, employing students through the Community Forestry Program. Brushing was limited to 46 hectares in 1986, 12 hectares in 1989, and 2 hectares in 1997

Opportunities to Improve Timber Quality

Market research at TFL Forest Ltd. suggests that the greatest value come from differentiating the products, not the resource. Consequently, the emphasis of TFL Forest's stand management regimes is on maximizing volume on stems 20 to 50 cm in diameter of good form (e.g. straight boles with minimal taper and small branches). This can be achieved by ensuring excellence in basic forestry practices such as rapid reforestation with a suitable number of seedlings of the most suitable tree species and the best genetic stock and configuration available, and by careful attention to brushing and weeding requirements.

Critical Projects

The only critical treatments identified for the next fiscal year within the backlog program are limited opportunities to brush and plant (See Appendix IV Table 2.2.3).

Incremental Silviculture Program

The Silviculture program is outlined in the Table 1.2.3 of Appendix IV. Incremental activities focus on surveys and approximately 130 hectares of juvenile spacing per year and 100 Fertilizing. No other activities are specifically planned at this time. Below is a table that states the TFL holder's rankings and whether MoF agrees with this priority.

Table 1.3.3 Treatment Ranking and MoF Issues with Licensee's Approach (Please see appendix IV for submission evaluation)

Program	Ranking	MoF Issues	Historic patterns
Enhanced Work:	1. Surveys, Fertilizing and studies 2. Spacing and Non Riparian Treatments 3. Other	The MoF concurs with this ranking. In general the licensee has assigned a higher priority to this work that last year. In the long term, TFL 47 shows the greatest promise of increasing their AAC, however, the Bonanza Lake Unit will experience minor shortfalls in its mid term AAC that can be mitigated through fertilization and spacing to set up commercial thinning opportunities. The base case of their MWP does not model fertilzing, but it does recognize the importance of spacing areas (with strict parameters) which is designed to achieve future commercial thinning opportunities	Historically, TFL Ltd. Has only participated in minor spacing programs. This years goals are the same but have included a minor component of fertilizing so for the purpose of this analysis their enhanced program is identical to previous years. Funding is nearly double of last years because of their request for Comfor funds, which provides a variety of work to North Island Teenagers.

Backlog Work	1. Surveys and Brushing on Impeded areas 2. Planting and Brushing on NSR areas	The MoF disagrees with this ranking. It is encouraging to see that Backlog work has been given a higher priority this year but the order of priority still conflicts with district beliefs. For clarity, MoF deems any Backlog work as having higher precedence than Enhanced work. Also, reforested areas are higher priority than impeded areas because NSR areas are contributing nothing to the THLB where as impeded areas are at a slow rate relative to a FG stand.	Historically, brushing goals have been falling due to the aggressive programs in the past. Goals are in keeping with historical estimates.
Overall: TFL Forest Ltd.'s proposal is in line with their TFL management plan, chief forester's AAC rationale and the latest TSR. The TSR's greatest issue is mitigating the downfall in the Bonanza Unit expected to hit in the midterm. Therefore, fertilizing and spacing seem like logical treatments in an attempt to mitigate this shortfall in timber supply.			

1.2.4.4 TFL 6 - Western Forest Products Limited

The following information is summarized from Western Forest Products Limited TFL 6 Management Working Plan #9 and is intended to supplement the licensees Resource Management Plan attached to Appendix V.

Basic Data

At 1,288,000 cubic meters Western Forest Products Limited has the largest AAC within the Port McNeill Forest District. Located along the coast of British Columbia, TFL 6 encompasses 170,216 hectares of which 83 percent contributes towards the long-term harvestable land base. The operable land base is made up of 77 percent Hw/Ba stands, 17 percent Cw/Yc stands, 5 percent Ss and 1 percent other.

Management Issues

The key issues affecting timber supply from a timber quantity, quality and forest health perspective are addressed within the appended Timber Supply Analysis. Yields are forecasted to decline over the next 50 years to a sustainable level of slightly less than 1,000,000 cubic meters. A few of the issues that are causing this decrease in AAC are:

- Green-up requirements tying up adjacent timber
- Visual Quality Objectives limiting modification of landscapes next to travel corridors
- Disease within old growth stands
- A lack of age classes between 40 years 250 years of age

The sensitivity analysis and accompanying tables and figures are in Appendix VI.

Resource Objectives

Management Working Plan #9 states that sawlogs and pulpwood are two primary objectives when managing for timber. Approximately 50 years from present the AAC will begin to use second growth timber as a major portion of its cut. Currently, the TFL is actively spacing and pruning stands to bring them within operability limits sooner. It is expected that this will help alleviate the AAC downfall in the midterm.

Opportunities to Increase Timber Supply

An aggressive backlog program is being managed on TFL 6. Western Forest Product is making every possible effort to release suppressed conifers and bring Not Satisfactorily Restocked (NSR) areas back into productive conifer stands.

Enhanced Forestry activities contribute significantly to increasing timber quantity, in particular fertilizing that is shown within Management Working Plan #9. Salal ecosystems offer major reforestation concerns. Fertilization encourages crown closure, thus shading out salal and freeing up nutrients that would otherwise be tied up in salal. Salal Cedar Hemlock Integrated Research Program (SCHIRP) trials have shown that once crown closure occurs, site productivity can be reclassified from poor to medium which translates into a 50 percent increase in MAI. This has significant implications on timber supply. Another enhanced activity that may have AAC implications is a proposed trial of 20 hectares per year of bog land draining. Spacing and pruning have been shown to bring stands within merchantability limits sooner and still maintain wood quality. Through modelling, it has been shown that spacing decreases volumes by
2 percent, but the shortened rotation length will help counter balance the expected decreases in AAC over the next five decades.

Western Forest Products view incremental to basic opportunity as having the largest immediate impact on timber volume. Fertilizing stands that have not achieved green-up will reduce spatial harvesting constraints. Many blocks are currently denied harvest because adjacent stands are within highly visible landscapes and are not greened-up. In addition to fertilizing, Western Forest Products proposes many activities that are deemed beneficial to appraisal ground but that are not currently eligible for Forest Renewal BC funding. These treatments have the potential to increase stand yields and free-up constrained areas sooner.

Opportunities to Improve Timber Quality

Western Forest Products recognizes the importance of enhanced forestry in achieving quality. Pruning produces a bole of a specified length free from knots. Spacing criteria allows deformed trees poor in form and growth to be selected out early in the rotation. By improving planting stock under the incremental basic program further benefits in quality could be attained.

Critical Projects

Within Western Forest Product's TFLs, the licensee views backlog activities as being critical projects. Backlog work is expected to decline over the next five years due to Western's aggressive approach over the last decade.

Incremental Silviculture Program

Silviculture programs are outlined in the Table 1.2.4 within Appendix V. Western Forest Products emphasizes that the backlog program and fertilizing be given highest priority seeing that it greatly effects timber volume. Western Forest Products has maintained a high level of enhanced forestry activities in the past and they wish to continue that trend into the next five-year period. Below is a table that states the TFL holder's rankings and whether MoF agrees with this priority.

Table 1.3.4 Treatment Ranking and MoF Issues With Licensee's Approach (Please see appendix V for submission evaluation)

Program	Ranking	MoF Issues	Historic patterns
Enhanced Work:	1. Fertilizing, Survey, Studies, Riparian Treatments and Non-riparian treatments. 2. Spacing and Pruning	The MoF concurs with this ranking. The licensees priorities are in keeping with last years, although more difficult to compare given they used a number system last	Historically, WFP's enhanced program was the largest on the North Island. This year's goals are considerably more than in the past and could be a

		year versus subjective wording this year. This years upcoming MWP submission will better refine how compatible these treatments are to future resource objectives, but for the time being they are in agreement with MWP#9	consequence of not being funded last year but still being available for treatment. In particular their pruning program is forecasted at 1,000,000$ more than last year.
Backlog Work	1. Surveys, Brushing, Rehabilitation, and Reforestation	The MoF concurs with this ranking, although reforestation should be given a higher ranking, this may be a problem with using words rather than numbers to rank the priorities. For clarity, MoF deems any Backlog work as having higher precedence than Enhanced work.	Historically, WFP have been the most aggressive of our licensees in ensuring stands are free to grow. This years goals and funding are identical to last years and substantial at nearly 500,000$
Overall: Western Forest Product's proposal is in line with their TFL management plan. No Chief Forester determination could be found, but WFP is currently in the process of bringing their new MWP into force within the next year. Therefore, the work being done is in keeping with ensuring the land base is growing and secondly, encouraging additional quantity and quality through incremental silviculture.			

1.2.4.5 TFL 39 Weyerhaeuser

Basic Data

Basic data on area, harvest levels, and age class distributions are found in Management Plan #7 for TFL 39. Block 3 is located on the islands and mainland areas near Port McNeill, and block 4 is in the Benson River drainage. The timber harvesting land base for the two blocks is 49,666 hectares, and the AAC is 415,000 cubic meters.

Management Issues

The key issues affecting timber supply from a timber quantity, quality and forest health perspective are addressed in section 2.0 of the Management Plan. Issues include landbase changes, set asides for alternative uses, constraints on harvesting to achieve non-timber management goals, inventory and growth rate assumptions and the intensity of silviculture treatment.

Resource Objectives

Weyerhaeuser's general management objective is to maximize the net present value of the prospective stream of earnings from the whole forest. This is achieved by growing the maximum economic volume of timber at an acceptable cost.

Opportunities to Increase Timber Supply

Silviculture strategies for meeting the volume objectives in the longer term include achieving well stocked stands, planting seedlings grown from improved seed, fertilizing pre and post free growing areas, brushing and weeding, reforestation of backlog areas, rehabilitation of poorly performing stands and improved utilization of deciduous areas. Spacing and pruning will be gradually phased out, although some will still occur, generally for non-timber benefits.

Critical Projects

The only "critical" resource management projects identified for the next fiscal year is fertilizing, and secondly planting.

Incremental Silviculture Program

The silviculture program is outlined in the Table 1.2.5 appendix VI. In general, the program focuses on fertilizing with a variety of incremental activities including juvenile spacing and pruning. Please refer to the appendix for further details.

Below is a table that states the TFL holder's rankings and whether MoF agrees with this priority.

Table 1.3.5 Treatment Ranking and MoF Issues With Licensee's Approach (Please see appendix VI for submission evaluation)

Program	Ranking	MoF Issues	Historic patterns
Enhanced Work:	1. Fertilizing and Survey work 2. Spacing and Pruning	The MoF generally concurs with this ranking. The overall AAC is projected to decline by a rate of 3.4% until it reaches a reduction of 13% of MWP #6's determination. Consequently, silviculture treatments that can	Historically, Weyerhaeuser has had a significant program on the North Island and continue to do so. Goals and funding have increased, in particular their fertilizing programs.

		mitigate this downfall are encourage but will require short, mid and long-term strategies. Priorities remain unchanged except for pruning which is given equal priority to spacing which district staff disagree with (pruning should be lower)	
Backlog Work	1. Brushing, Surveys and Rehabilitation 2. Planting	The MoF disagrees with this ranking. For clarity, MoF deems any Backlog work as having higher precedence than Enhanced work. Also, reforested areas are higher priority than impeded areas because NSR areas are contributing nothing to the THLB where as impeded areas are at a slow rate relative to a FG stand. Weyerhaeuser's strategy within their MWP is to manage for deciduous and earlier this year Coast Mountain Hardwoods was bought by Weyerhaeuser. Consequently, brushing is only focused on backlog areas, not impeded areas, which seems in keeping with their strategy.	Historically, Weyerhaeuser has been aggressive in ensuring stands are free to grow. This years goals and funding are double due in large part to a large rehabilitation program.
Overall: Weyerhaeuser's proposal is in line with their TFL management plan, chief forester's AAC rationale and the latest TSR. The TSR's greatest issue is mitigating the gradual downfall till the AAC is reduced by 13%. Therefore, fertilizing and spacing seem like logical treatments in an attempt to mitigate this shortfall in timber supply and have been modelled in MWP#7 as having a boost in the long term AAC of 205,000m3/yr.			

1.3 OVERVIEW OF RESOURCE MANAGEMENT ISSUES

1.3.1 Key Resource Management Planning Issues for Port McNeill Forest District's TSA:

Kingcome Timber Supply Area

Incremental Silviculture Strategy (Detailed)
- Version 1.2 –
British Columbia
Ministry of Forests

Funded by :
Forest Renewal British Columbia

Incremental
Silviculture
Program (ha)
(Total TSA)

Year	Surveys	Backlog Prep/Plant	Backlog Brushing	Space	Prune - 1	Prune - 2	Fertilize	Drain	Total
1	4,175	115	800	200	175	0	700		6,165
2	3,105	195	600	120	20	0	600		4,640
3	2,995	100	550	120	50	-	550		4,365
4	3,115	0	550	120	20	-	700		4,505
5	2,965	-	550	120	20	-	550		4,205
Subtot Yr 1 - 5	16,355	410	3,050	680	285	0	3,100		23,880
6 - 10	15,000	-	500	500	500	-	2,500	-	19,000
Total Yr 1 - 10	31,355	410	3,550	1,180	785		5,600		42,880

Introduction

About the Interim Strategy

The terms of a service agreement between Forest Renewal BC and the BC Ministry of Forests (MOF) require the MOF to develop, and Forest Renewal BC to fund, what is essentially an incremental silviculture strategy. This document is in fulfilment of this contractual requirement.

Incremental silviculture is part of a suite of strategies which together may influence the future quality and quantity of habitat and timber supply. This strategy document broadly analyzes the full range of potential silviculture activities in order to create a context for an incremental silviculture strategy.

An incremental silviculture strategy should not be confused with the allowable annual cut (AAC) determination process. AAC's are based on actual practice and current information at the time of the determination. This strategy, on the other hand, is about creating a future state of our forests. The degree to which the strategy proves appropriate and is achieved may influence future, but not necessarily present, AAC determinations.

This strategy is founded on readily available information and the knowledge of forestry professionals. It is intended as an interim strategy until a more in-depth analysis-based review is completed.

Methodology

This strategy was prepared through the following process:

1. Prior to the district working session, L. P. Atherton & Associates prepared a preliminary draft of this document, summarizing all available information relevant to a strategy and identifying opportunities to improve the future quantity and quality of timber supply.
2. A district working session was held July 29 & 30, 1998 in Port McNeill, attended by representatives of the MOF and forest licensees of the Kingcome TSA. Larry Atherton of L. P. Atherton & Associates and Doug Williams of Cortex Consultants Inc. led the session. Participants reviewed the potential opportunities identified in the draft document along with others that arose. The outcome of the session was a regime table, complete with priorities. August 31, 2000, district staff further refined the next 5 years and incorporated those changes with this document.
3. The consultants incorporated the results of the working session into the draft document and added forecasts of future harvest quantity and quality and of job outcomes.
4. After ministry review, the consultants submitted a completed strategy document to the MOF in electronic format as version 1.0. (The ministry will assign higher version numbers (e.g., 1.1, 1.2, etc.) as the strategy evolves and changes are made.)

Acknowledgments

The participation of representatives of the following organizations at the district working session is gratefully acknowledged.

Ministry of Forests:

- Port McNeill Forest District
- Vancouver Forest Region.

Forest licensees of the Kingcome TSA:

- TFL Limited
- Weyerhaeuser
- Western Forest Products
- Interfor
- Canfor

Mr. Larry Sigurdson of the Ministry of Forests, Vancouver Forest Region, managed the project. Forest Renewal BC provided funding.

Basic Data

After publication of the Analysis Report, the BCFS corrected a data error, increasing the timber harvesting land base by 1%. Information below is noted as corrected or uncorrected, as available.

Table 1.3.6 Kingcome TSA Land Area

Description	Area (ha)	Area %
Total Area of TSA	1 126 100	
Total Productive Crown Forest	519 700	
Net Timber Harv. Land Base	177 900	

Corrected THLB - rounded to nearest 100 ha.

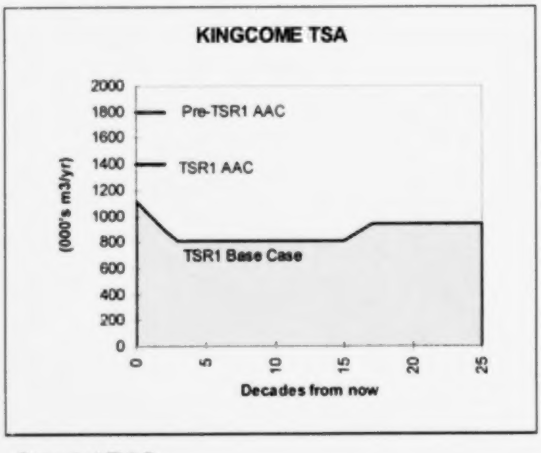
Table 1.3.7 Kingcome TSA AAC

AAC Type	Pre-TSR	TSR1*	Change (%)
Conventional	1 798 270	1 244 000	-30.8
Deciduous	-	25 000	∞
Insect/Disease	-	-	
Marginal	-	130 000	∞
Total	1 798 270	1 399 000	-22.2

Woodlot AAC — not included in conventional AAC — 10 278

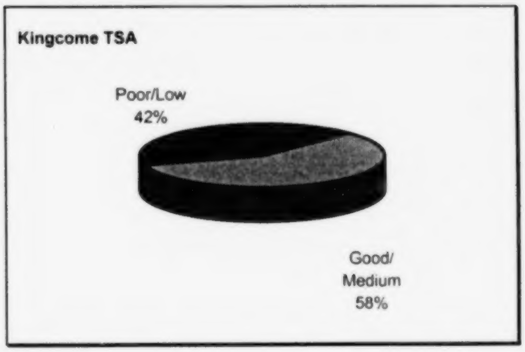
*effective Nov 1/96

Figure 1.3.0 Kingcome TSA Harvest Forecast



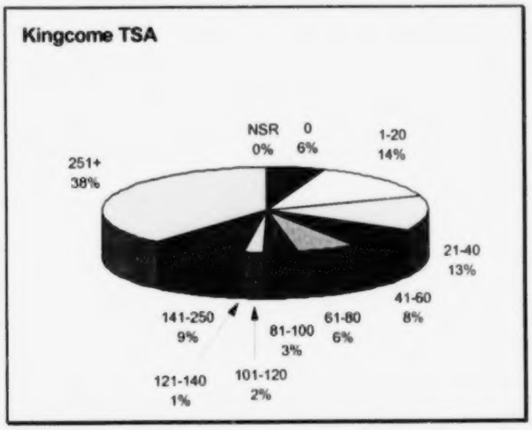
Corrected THLB

Figure 1.3.1 Site Class Distribution Within The Kingcome TSA



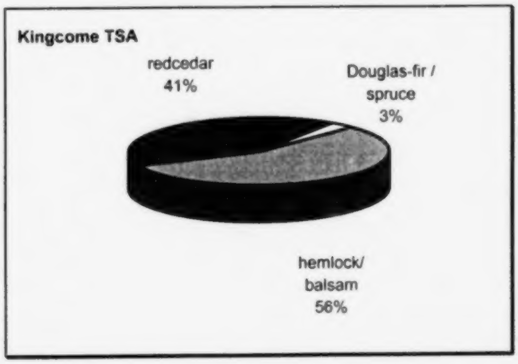
Uncorrected THLB

Figure 1.3.2 Age Class Distribution Within The Kingcome TSA.



Uncorrected THLB. Data scaled from chart in TS analysis report.

Figure 1.3.3 Tree Species Distribution Within The Kingcome TSA.



Uncorrected THLB.

Issues

Individual Issue Analysis

The following information is primarily from documentation produced under the first timber supply review, or TSR1. Sources are noted, with full references given on page 49. Only information which is relevant to an incremental silviculture strategy is recorded. Key statements are bolded.

Due to the discovery of a data error (the THLB was increased 1% following correction), a different base case was used in the AAC rationale from that in the TSR report. Some of the information below may therefore not precisely correspond with the corrected base case.

Abbreviations: AAC - allowable annual cut; THLB - timber harvesting land base; IHL - initial harvest level; LTHL - long term harvest level; CF - chief forester; TSR - timber supply review; VQO - visual quality objective.

◆ Fall Down	Base case is for the conventional coniferous component of the TSA (rationale, 44). "Current AAC" assumed to be 1 658 770 m3, after a 139 500 m^3 deduction for allocated woodlots, deciduous stands, and stands with low productivity (total pre TSR AAC: 1 798 270 m^3). Corrected base case **initial harvest level is 1 117 600 m^3, 33% below current AAC,** declining thereafter at a rate of 10%/ decade to a mid term level of 811 600 m^3 after 3 decades (**51% below current AAC, 27% below initial harvest level)**, rising to a long term harvest level in decade 16 of 963 600 (**42% below current AAC, 14% below initial harvest level**). (rationale, 11)
◆ Age Class	Approximately **38% of THLB in stands aged 251+**, having implications for green-up and adjacency constraints. **Only 6% of THLB in stands aged 81-140**, resulting in mid term harvest levels below LTHL for an extended period. (TSR report)
◆ Forest Cover	*IRM Zone*: 59% of THLB. Base case requirement of at most 25% of THLB permitted to be < 3 m tall (4 pass system). Sensitivity test of ± 1 pass. Relaxation: (3 pass) Moderate sensitivity, increase of 8% in first 4 decades, otherwise not sensitive in mid or long term. **Other factors restrict the response.** Increase: (5 pass) **Highly sensitive in the short term**. Initial harvest level 28% below base case. Slightly below mid term base case. No effect long term. *Visual Quality Zones*: 41% of THLB. Base case requirement of at most 4% (high sensitive areas), 14% (medium) and 24% (low) to be < 5 m tall. Sensitivity test of ± 5%. (analysis, 42-43) Relaxation: (+5%) Moderately sensitive - increase of 8% in first 3 decades, **almost eliminates mid term shortfall**. Long term insensitive. Increase: (-5%) Highly sensitive - decrease of 10% in first 3 decades, 17% over mid long term, and 7% below long term. [Indications are that some VQO's will be re-classified prior to TSR2, and that while VQO's will be less restrictive than in TSR1 they will still be significant.[2]]

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[2] Source: MoF Port McNeill Forest District. Hereafter noted in the text as (PMFD).

Green-up: Base case uses avg of 14 yrs for 3 m green-up in IRM zone and 19 yrs for 5 m green-up in VQ zones.

Sensitivity test of ± 5 years.

> Decrease: (- 5 yrs) Two alternatives indicate either higher short term volumes (+22% over 1st several decades) or higher mid term volumes (+9.5% over base case - **almost eliminates mid term shortfall)**, but not both, can result from lowering green up ages 5 years. Long term insensitive.
>
> Increase: (+ 5 yrs) **Highly sensitive** - initial harvest level 41% below base case. Rises to base case in decade 13. LTHL 1.5% below base case.

Change to green up ages is more sensitive than changes to adjacency due to the large existing area already below green up age. **Lowering green up ages makes more adjacent area available to a greater extent than relaxing adjacency constraints.**

Site indexes are potentially underestimated by 4 m, which would result in a 3 yr reduction in green-up ages. A sensitivity test of - 3 years indicates the **initial harvest level could be 18% higher** than corrected base case if time to green-up is reduced 3 years. (rationale, 29) CF does not explicitly accept that site productivity has been underestimated and green-up periods over-estimated, but accepts the likelihood that this offsets other uncertain factors which may reduce short term timber supply (rationale, 46).

◆ Backlog NSR

350 ha of backlog NSR. Assumed to be restocked within 3 - 5 years. CF considers this a minor over-estimation as will become either deciduous or will be understocked.

◆ Quality

- 11 451 ha of non-merchantable forest types deducted from THLB (approx 10 000 ha deciduous and 1 450 low quality pine). Partition of 25 000 m3 for deciduous species.
- 816 ha of brush deducted from THLB.
- 25 478 ha of low productivity sites deducted from THLB. Partition of 130 000 m3 of AAC for low productivity sites.

◆ Older Forests

Base case does not include a requirement for old growth or biodiversity as there are no specific provisions applied operationally in the TSA.

> Relaxation: N/A
>
> Increase: Sensitivity analysis indicates the impacts of biodiversity and riparian requirements could result in a 5.7% decrease in initial harvest levels from the corrected base case. [Sensitivity analysis on the uncorrected base case for the addition of a requirement for at least 10% of stands being older than 140 years indicates that all terms are sensitive. **Long term is 5% below base as it forces the harvesting of stands at ages past the point of maximum growth rates.**]

◆ Min. Harvest Ages

Base case uses ages within 5% of culmination ages as min. harvest ages. Sensitivity analyses on uncorrected base case of ± 10 and ± 20 yrs. Slight sensitivity (± 2%) to 10 yr change only in decades 4 to 16.

> Decrease: (- 20 yrs) Short and long term insensitive. Mild sensitivity mid term, with harvest levels slightly higher than uncorrected base case (+2%).
>
> Increase: (+20 yrs) Short and long term insensitive. Mild sensitivity mid term, with harvest levels 5% lower than uncorrected base case.

Effects are considerably greater when a 20 yr reduction in minimum harvest ages is combined with a 30% increase in regenerated stand volumes, as would be the result were site indexes increased by 4 m (see "Site Productivity").

- Silvicultural Systems

Most of the THLB is currently managed under a clearcut harvesting system. Some harvesting is clearcut with reserves. CF notes potential to increase harvests in visually sensitive areas using alternative silvicultural systems.

- Regeneration Delay

Approximately 40% of harvested areas are regenerated naturally (rationale, 23). Regeneration delays in the TSR analysis were 3 years for Douglas-fir and spruce and 5-6 years for cedar, hemlock and balsam (analysis, 78). Those areas having a 6 yr delay were subsequently found to be regenerated in 5 years. A sensitivity analysis indicated **initial harvest level could be increased 1.2%** due to this change [likely due to a 1 yr reduction in green-up age], which CF took into consideration in AAC determination (rationale, 23).

Deer browse and Sitka spruce leader weevil are the most significant impediments to regeneration. However, losses are not of sufficient magnitude to cause CF to make an AAC adjustment. (rationale, 24)

Potential to reduce all delays to 3 years if all areas are planted (rationale, 23).

Sensitivity test of ± 3 yrs. (analysis, 39-40; uncorrected base case) All periods are sensitive.

> Decrease: (- 3 yrs) **Very sensitive in the short term**, with harvest levels 12% above the base case for the 1st 3 decades. Moderate sensitivity mid term, with harvest levels 5% higher than base case. LTHL 2% higher.
>
> Increase: (+3 yrs) Harvest levels 8% below base case for the 1st 3 decades. Mid and long terms 5% and 3% lower than base case, respectively.

- Site Productivity

Information from adjacent areas indicates site indexes may be underestimated by 4m. If site indexes are underestimated 4 m, estimates of min harvestable ages decrease by 20 yrs and regenerated stand volumes increase 30%. (rationale, 21) Sensitivity analysis indicates **this combination could increase mid and long term harvests by 11% and 29% respectively** (analysis, 38).

A site productivity increase of 4 m would also decrease green-up periods by 3 yrs, resulting in an 18% increase above the base case initial harvest level. (rationale, 21)

- Estimates of Timber Volumes

[All of the following is with respect to the uncorrected base case.]

VDYP - existing stands (analysis, 80). TIPSY - regenerated stands (analysis, 82).

Existing stand volumes: An inventory audit found inventory existing stand volumes to be overestimated by 11% for the TSA as a whole (rationale, 45). While the CF considers this not to be fully quantified, based on the sensitivity test below, **this indicates short and long term harvest level reductions below the base case of approximately 120 000 and 50 000 m3/yr respectively**.

Sensitivity test for ± 10% in volume. Highly sensitive to both in short and mid terms. Long term insensitive.

> Increase: (+10%) **Highly sensitive.** Increases volumes in 1st several decades by 10% and over mid term by 8% (due to some harvesting of regenerated stands).
>
> Decrease: (-10%) **Highly sensitive.** Initial volumes reduced 10% below base case for 1st 3 decades and 6% below for decades 4 - 16.

Regenerated stand volumes: OAF 1 - 15%, OAF 2 - 5% (analysis, 78).

Sensitivity tests for ± 10 and ± 25% in volume. Short term insensitive to either. Highly sensitive to both in long term.

> Increase: (+10 or +25%) LTHL 10 or 25% higher than base case, starting to

rise from mid term shortfall 150 years from now. 10% change insensitive in mid term but **25% change gives a 7% increase in this period**. [Both scenarios exacerbate the mid-term dip below LTHL in base case- potential for commercial thinning?]

Decrease: (-10 or -25%) LTHL 10 or 25% lower than base case. 10% change insensitive in mid term but 25% change gives a 13% decrease below base case starting at decade 8.

Summary of Issues by Period

Short Term (1 - 20 yrs)

Short term harvest levels are highly sensitive to changes in green-up ages, and consequently to regeneration delay. Lowering green up ages makes more adjacent area available to a greater extent than relaxing adjacency constraints. This is because of the large existing area currently below green-up age.

An inventory audit found mature stand volumes to be overestimated by approximately 11 percent. Based on TSR sensitivity analysis results this can be expected to result in short term harvest levels in the order of 120 000 m^3/yr less than the base case. However, the CF considers this to be offset by the possibility that green-up ages are overestimated (because site indexes are underestimated), which is an approximately equal upward influence on short term harvest levels.

Mid Term (21 - 160 yrs)

Only 6 percent of stands are aged 81 - 140 years, contributing to mid term harvest levels being below the LTHL for an extended period.

Relaxing adjacency requirements in the visual quality zones almost eliminates the base case mid term harvest shortfall, indicating the potential for partial harvesting or commercial thinning in these zones. Similarly, achieving green-up earlier through silviculture practices (effectively lowering green-up ages) can also eliminate the mid term shortfall.

As a result of inventory audit findings, mid term harvest levels are likely in the order of 50 000 m^3 (6%) below the base case (see "Short Term"). Potentially offsetting this decrease is the finding that, if site indexes are underestimated 4 m, estimates of min harvestable ages decrease by 20 years and regenerated stand volumes increase
30 percent. Sensitivity analysis indicates these could result in an 11 percent increase in mid term harvest levels.

Long Term (161+ yrs)

Long term harvest levels are sensitive to the imposition of an older forest constraint (currently there isn't one) as it forces the harvest of stands beyond culmination age. A requirement for 10 percent of stands to be older than 140 years at all times results in a 5 percent reduction to the long term harvest level.

The long term is otherwise only sensitive to changes in regenerated stand volumes. A 1 percent increase or decrease in regenerated volumes results in a corresponding 1 percent increase or decrease to the LTHL. An increase in LTHL increases the difference between the mid term and long term harvest levels, thereby increasing the opportunity for silvicultural practices to bring forward volumes from the long term into the mid term.

Future

Future factors to be considered in determining an incremental silviculture program include:

- further reductions in land base resulting from implementation of the Vancouver Island Land Use Plan;
- the implementation of biodiversity and old growth plans.

Incremental Silviculture History

Approximately 2 000 ha were harvested annually prior to TSR1 and 1500 ha following the Chief Foresters Determination in 1996.

Treatment	TSR1 Status (1994)		Current Status (2000)
	Incorporated in Timber Supply Analysis	Not Incorporated in Timber Supply Analysis	Source: PMFD
◆Backlog	350 ha to be reforested in 5 years, aggressively over the next 2years according to Janna Kumi's letter dated Jan 17th, 1997 (rationale, 25).		About 150 ha require site preparation and planting. Expected to be completed in 2 years.
◆Backlog Brushing /Conifer Release	500 ha/yr, on Vancouver Island and the mainland portions of the TSA.		
◆Conversion	600 ha of alder overstory to be treated, releasing HC understory.		
◆Commercial Thin		None.	None.
◆Space		Approx. 5 000 ha spaced since 1980 (rationale, 26).	2000 level approx. 100 ha/yr.
◆Prune		None indicated at time of TSR1.	2000 level approx. 100 ha/yr. Typical treatment is 1 lift prune to 2/3rd's of the trees in a spaced stand. This is dependant upon the amount of spacing ground completed in previous years.
◆Fertilize			Intensively treated in 1999, more still available. Could support a program of 500 ha/yr. Target is age class 1 & 2 cedar, poor to low site class.

Higher Level Goals and Objectives

This section documents higher level goals and objectives relevant to an incremental silviculture strategy for the TSA.

Provincial Goals

Fundamentally, government's goals can be characterized as:

- sustainable use;
- community stability; and
- a strong forest sector. (MOF, 1998a)

Provincial Objectives

Until provincial targets for timber quantity and quality are established, management unit strategies are to consider the following interim provincial strategic objectives (MOF, 1998a). Incremental silviculture strategies must also be in keeping with higher level plans under the Forest Practices Code.

Objective 1: Maintain current harvest levels as long as possible without creating disruptive shortfalls in future timber supply.

Objective 2: Create a long term timber supply capable of supporting a steady long term provincial harvest level similar to current levels.

Objective 3: Minimize the interim shortfall in provincial harvest anticipated before a steady long term timber supply is achieved.

Objective 4: Create a long term timber supply which will enable the timber quality profile of future harvests to be the same or better than the current profile.

It is recognized that not every management unit has the same capability to contribute to these interim objectives. Further, it is recognized that these objectives may not be attainable at current funding levels. Their purpose is to provide general guidance to the application of available funds.

Regional Objectives

The objectives of the regional incremental silviculture strategy are to:

- Ensure a long term sustainable harvest which approximates the current harvest value and volume levels and that produces a diversified mix of products necessary to create and maintain sustainable forest employment.
- Balance treatments that enhance growth and yield such as fertilizing, spacing and forest health activities with those that increase the value of the wood such as pruning.
- Utilize incremental silviculture treatments to contribute to sustainable management of non-timber values at the landscape level. (MOF, 1998b)

Opportunities to Increase Timber Supply

The Kingcome TSA occurs primarily on the mainland from Knight Inlet in the south to Cape Caution in the northwest and inland to Tweedsmuir Park. Smaller portions of the TSA are located at the northern tip of Vancouver Island and adjacent to Brooks Bay on the west coast of Vancouver Island. Steep terrain and lack of access limit the ability to offset projected timber supply reductions.

Opportunities Indicated Through TSR Sensitivity Analyses

TSA modelling in support of planning incremental silviculture has not yet been undertaken. In its absence, sensitivity analyses from the TSR1 analysis report are the best source of information as to the opportunities for incremental silviculture to increase future timber supply. The following are selected sensitivity analsysis charts from the TSR1 analysis report, to which opportunity information is added. Detailed analyses are required to confirm the indicated effects.

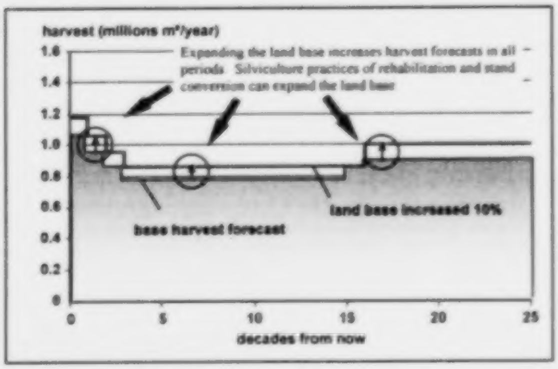

Figure 1.3.4. Changes in land base, Kingcome TSA

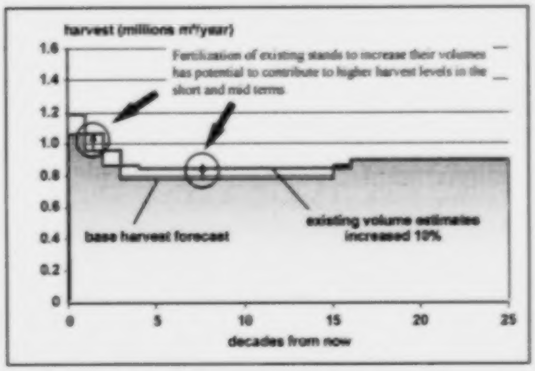

Figure 1.3.5 Changes in existing stand volumes, Kingcome TSA

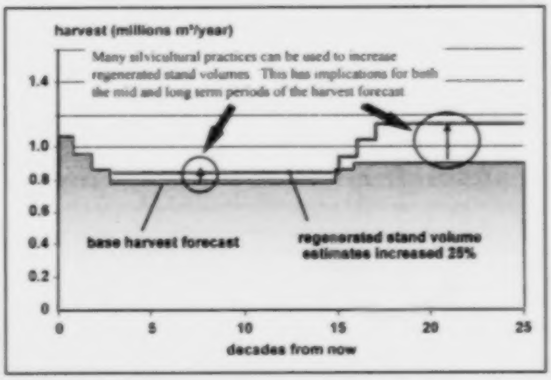

Figure 1.3.6 Changes in regenerated s tand volumes, Kingcome TSA

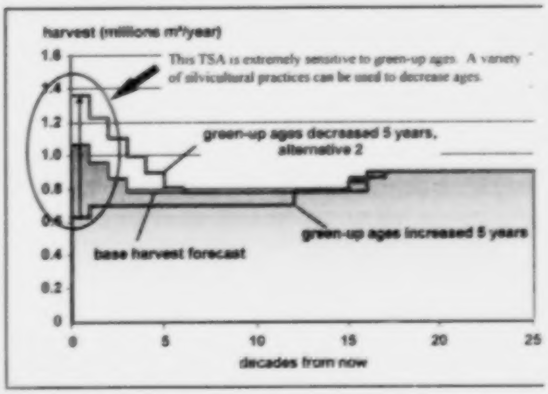

Figure 1.3.7. Changes in green-up ages, Kingcome TSA

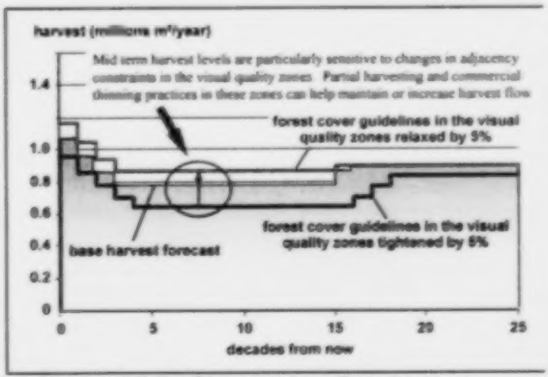

Figure 1.3.8. Changes in adjacency requirements, Kingcome TSA

Preliminary Identification of Silviculture Opportunities

Information in the previous sections indicates the following silvicultural strategies may have potential to increase future timber supply. Each of the potential strategies was discussed in detail in the district working session, the results of which are recorded in "   Potential Strategies *by Response Time Frame*," along with additional strategies that arose during the meeting. Strategies that are ultimately adopted are noted in " ".

Short Term (1 - 20 yrs)

ST 1: complete site index and existing stand volume estimation studies.

ST 2: achieve green-up 3 years earlier through a variety of actions.

ST 3: overcome adjacency limitations by implementing partial harvesting/CT regimes in VQO zones.

Mid Term (21 - 160 yrs)

MT 1: reduce regeneration delay 2 yrs by planting all areas.

MT 2: continue partial harvesting/CT regimes as in ST 3.

MT 3: increase the volume of regenerated stands by 20% through a variety of actions.

MT 4: move volume forward from the long term to the mid term.

MT 5: conduct extensive fertilization trials in hemlock stands to be able to increase the volume of existing hemlock stands.

Long Term (161+ yrs)

LT 1: increase the volume of regenerated stands by 20 percent as in MT 3 above.

Available Information Regarding Potential Treatments and Treatable Area

This section summarizes available information directly relevant to the potential treatments for the TSA.

Treatment	Comment	Treatable Area
◆ Alternative Silvicultural Systems	Use of alternative systems in visually sensitive areas could increase availability of timber for harvesting. A recently issued forest licence located in lower Knight Inlet requires alternative harvesting and silvicultural systems. Weyhaeuser is planning a transition to alternative systems over the next 5 years.	41 % of TSA is visually sensitive.
◆ Spacing	Spacing has been applied in some younger existing stands.	
◆ Fertilization	Very little fertilization in the TSA. Variable response in H. Few Fdc stands. Cedar stands give response but many stands are remote and therefore costly to treat. A greater knowledge of growth and yield responses of hemlock to fertilization is needed (PMFD). Cw/Hw salal sites achieve crown closure (CC) at approximately 7 m, which shades out competing salal. Prior to CC, salal reduces site potential through nutrient competition. Stands show significant response to a regime of fertilization at time of planting, plus 1 or 2 more applications to achieve early CC. 90%+ of Cw sites are	Little treatable area amongst older stands. Significant early tree ht. growth found in SCHIRP trials in cedar - salal associations.

Treatment	Comment	Treatable Area
	planted.	
• Commercial Thinning	None to date. CF expects district staff to analyze potential for CT and, if feasible, to implement a CT strategy. (rationale, 27) Approx. 17% of forests in the THLB are 30 to 80 years old and may be candidates for commercial thinning. 10 400 ha of H stands 40 -60 years old. Steep terrain and lack of access limits availability. (rationale, 26-27)	About 10 000 ha of suitably aged stands are located on the mainland. Of these, 3 000 ha are considered accessible (PMFD).
• Backlog NSR	All backlog scheduled to be restocked in next 2 years. No additional opportunity.	0

Potential Strategies by Response Time Frame

Explanatory notes with respect to the following tables.

Table 1.3.14

Column Number	Note
1	The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.
2	Strategy numbers correspond with the numbers recorded earlier in " Preliminary Identification of Silviculture *Opportunities*,". Items followed by an asterisk (*) were added during the district working session.
3	Information is largely from a meeting of ministry personnel and forest licensees held July 29 & 30, 1998, (the "district working session") combined with information presented earlier in this document. It's been further refined as of August 31st, 2000.
4	Anticipated results are typically calculated using the timber supply response indicated by TSR1 sensitivity analyses.
5	The harvest forecast for the short term uses the TSR1 AAC as the starting level in the first decade, and the TSR1 AAC less 10% for the 2nd decade (as per the base case). Mid and long term harvest forecasts take the corrected base case levels from TSR1 as the starting levels, adjusted upwards by 10% to recognize the partitioned AAC for low productivity sites and associated timber harvesting land base increase (see rationale, 17). The harvest forecast column was not thoroughly reviewed during the district meeting. *Results are largely conjecture and are meant to illustrate the potential of the strategies.*

In the AAC rationale, the chief forester identified a number of potential downward influences on timber supply. For the purposes of this strategy, however, a status quo is assumed with respect to these. Should any arise, the following strategies would serve to mitigate their effects rather than increase timber supply.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Potential Harvest Forecast (000 000s m3/yr)
♦ Short Term (1 - 20 yrs)	1. Complete site index & existing stand volume estimation studies.	1. The need for completion of these studies is noted under " Summary of Information and Research Needs," page 45.	1. N/A - results of the two studies may be largely offsetting.	1.40 1st dec.
	2. Achieve green-up 3 years earlier in VQ zones by:	2. Green-up is a policy issue and requirements are subject to change. The best opportunities to achieve earlier green-up are pre-free growing. TSR1 ages to reach specified tree heights. Species FG 3M 5M Cw 7-8 14 20 H/B 5-8 5-8 10-12 Overall, approx. 60%+ of harvested areas are currently planted (Cw, Hw, Ba, minor Fdc). Natural regeneration is common on N to NE aspect Hw/Ba sites.	2. TSR1 indicates a 3 yr earlier green-up yields an approximately 18% increase in harvest levels in the 1st decade. Assume 3 yr earlier green-up achieved on ½ of areas (0.5 X 18% ⇒ 9%) (or 1.26 X .09 = .11).	1.26 2nd dec. 0.11 grn-up 0.03 prt harv 1.40 total
	(a) planting large genetically improved stock;	2.(a) Planting larger stock is a basic silv matter - not likely to change w/o funding assistance. Genetically improved stock will reach green-up sooner than stock from "wild" seed, although gain in years is not known. See MT3 re yield gains. All Cw and Hw seed is "A" class. No Ba available.		
	(b) increasing proportion of area planted & plant all areas sooner (to reduce regeneration delay 1-2 yrs);	2.(b) Reducing regen delay is a basic silv matter. TSR1 regen delay for Fdc & S is 3 yrs. Current practice is to plant in 2 yrs. Very high plantation success rate. (relatively little of these species in this TSA). TSR1 regen delay for Cw is 5 yrs. Current practice is to plant in 1-2 yrs. Very high plantation success rate. TSR1 regen delay for Hw natural is 5 yrs. Current practice is 3 yrs. If planted (not likely to change w/o funding assistance), would likely be 1-2 yrs.		
	(c) brush for growth enhancement; and/or	2.(c) Brushing is currently for survival - unlikely to change within current funding structure.		
	(d) fertilize suitable regenerated stands to increase their growth.	2.(d) Fertilizing Cw is an option. See discussions under MT 3 & MT 5 below.		
	3. Implement partial harvesting/CT regimes in VQO zones to increase timber supply from areas limited by	3. Some partial harvesting is planned. Will likely increase when there is no alternative to harvesting in areas limited by forest cover constraints.	3. TSR1 indicates an 8% increase in ST harvests from relaxing requirement of area	

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[3] * - indicates potential strategies that were added during the district working session.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Potential Harvest Forecast (000 000s m3/yr)
	adjacency constraints.	About 3 000 ha currently available on the mainland for CT, but no plans. During discussion of this topic in the district working session, regenerated stand yields for the TSA were questioned. There was a strong feeling TIPSY yields for Hw in particular were underestimated. Noted under " Summary of Information and Research Needs," page 45.	allowed to be not greened up by 5%. Assume achieved on ¼ of areas. (0.25 X 8% ⇒ 2%)	
	4. Increase the volume of some existing stand volumes through fertilization.*[3]	4. Hw response is variable. Studies required to confirm fertilization potential.	4. N/A. Studies required.	
	5. Expand the timber harvesting land base through:* (a) rehabilitating backlog NSR;	5.(a) **Remaining 150 ha is mostly on the mainland portion of the TSA and will be stocked in next 2 yrs. About 3 000 ha of backlog brushing required** to release conifers on previously harvested areas. Impacts already included in TSR1 base case.	5. (a) Already in base case forecast.	
	(b) draining low site wet lands in the Nawhitti Plateau and Standby area; and	5.(b) About 40 000 ha classified as Cw 921 P/L. About 8 000 ha may be treatable at $3 000/ha. Requires 1 m ditches 30 m apart. Would require environmental and public review. **Consider experimental for now, it may become a trial in future years.**	(b) 8 000 ha of drainage =4.5% of THLB. Expect to change site quality from low to poor, ∴ possible 3% gain. Due to experimental nature and need for public review, this is not included in potential ST harv forecast.	
	(c) rehabilitating non-commercial alder stands.	5.(c) Considerable area in alder which is operable but not commercial. Would need to co-ordinate with alder licensee to determine treatable areas. Requires further study - **program not likely to start in next 5 yrs & then would take 15 yrs to complete.**	(c) Assume 2 000 ha may be rehabilitated to G site conifer = 2/178 THLB.= 1%. However, not likely completed within ST.	
♦ Mid Term (21 - 160 yrs)	1. Plant all areas to reduce regeneration delay by 2 years.	1. See discussion under ST 2 above. This is a basic silv. activity.	1. Potentially overlaps with gains from reducing time to green-up, but treated as an indication of mid term potential. Sensitivity analysis indicates a 5% gain with a 3 yr reduction, ∴ (2/3 X 5% ⇒ 3%.	0.81 base 0.08 THLB adj 0.89 Adj base + 0.03 rgn dlay 0.03 prt harv0.05 rgn vol
	2. Overcome adjacency constraints in VQO zones by: (a) partial harvesting; and	2. (a) See discussion under ST 3 above.	2.(a) Sensitivity analysis indicates a 11.5% gain with a 5% relaxation in constraints. Assume achieved on ¼ of	

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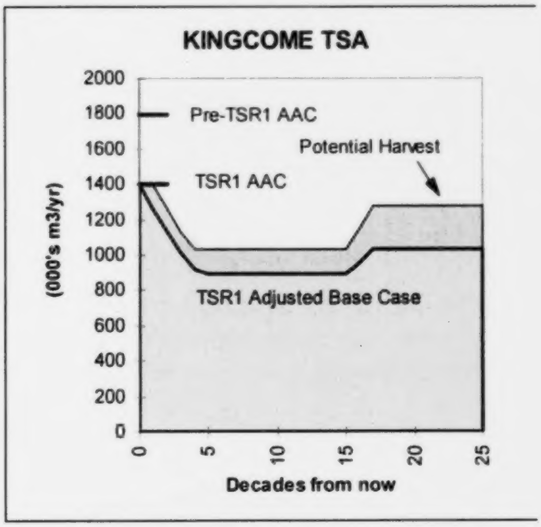
[4] Source: participants at Fraser TSA working session.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Potential Harvest Forecast (000 000s m3/yr)
			areas. (0.25 X 11.5% ⇒ 3%)	0.02 fert Cw 0.01 inc THLB 1.03 total
	(b) setting up stands for CT through spacing.	(b) Some areas are currently being spaced to set up for CT. However, although 33% of THLB is in stands ≤ 40 years old, few of these meet the criteria of better site, high visibility and economically accessible. Only 2-3% of stands in this age group are considered suitable for CT and would support **a program of approx. 200 ha/yr**.	2.(b) Slight positive impact - not estimable.	
	3. Increase regenerated stand volumes 20%: (a) reducing time to regeneration;	3. (a) & (c) - see discussions under ST 2 above.	3. Sensitivity tests indicates a 25% increase in regenerated stand yields will increase MT harvests 7%. At least a 20% gain can be anticipated through implementation of the indicated actions ∴ 20/25 X 7% ⇒ 6%.	See p 34 re THLB adjustment.
	(b) using A class seed or better; (c) using large planting stock;	3. (b) Approx. 60%+ of harvested areas are planted. Fdc, Cw & Hw seed is "A" class. Latest estimates of yield gains are (%):[4] Species — 1^{st} gen — 2^{nd} gen Doug-fir (Fdc) — 3-5 — 15 Hemlock (Hw) — 3 — 20 Cedar (Cw) — 3 — 10 [illegible]reas now managed for natural regen Hw (40% of total area) were planted w genetically improved stock (20% gain), gain could be 40% X 20% ⇒ 8% overall;		
	(d) managing stocking to reduce voids 5%;	3. (d) Voids can be desirable for wildlife habitat. Current free growing requirements will result in < 15% in voids, however amount is unknown as must also account for area not in the net area to be reforested (other than allowable roads & landings) and for voids that open up later on. Given the difficult operating terrain of this area, 15% voids may be reasonable. Actual voids could be surveyed. Noted under " Summary of Information and Research Needs," page 45.		
	(e) individual tree fertilizing at time of planting.	3. (e) It is now common practice throughout the TSA to fertilize individual trees at time of planting on cedar / salal sites. Post FG is done with FRBC funding, however no funding in 1997. These treatments are done aerial / broadcast for efficiency and effectiveness. See discussions under MT 5 below.		
	4. Space all post FG stands to set up for CT to bring forward harvest from long term into mid term.	4. Currently not much opportunity. Bringing forward harvest from the LT is too far into the future to contemplate or assess now. Noted for future assessment in approx. 50 yrs.	4. N/A	
	5. Fertilize existing		5. (a) N/A	

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Potential Harvest Forecast (000 000s m3/yr)
	(a) hemlock and (b) cedar stands to raise their volumes. 6. Expand the timber harvesting land base as per ST 5 above*	5. No fertilization currently taking place. (a) Identify characteristics of hemlock stands that show a fertilization response so treatable area can be expanded. The need for extensive fertilization trials in hemlock stands is noted as a requirement for further research under "Summary of Information and Research Needs," page 45. 5. (b) Cw shows an estimated 30% response from fertilizing to force early CC. Once Cw has achieved CC, no further fertilization is required. Two methods of estimating potential were explored. (Method 1) Existing stands between post-FG and age 20 = 8% of THLB. Cw = 40% of THLB. ∴ Cw between FG & 20 = 40% X 8% = 3.2% of THLB, or approx. 5 000 ha. 30% gain X 3.2% THLB = 1% gain overall. **Would require a fert. program of approx. 500 ha/yr for 5 yrs**. (Mthd 2) **Estimate up to 15 000 ha of existing Cw stands between post-FG and age 20**. 15 000 ha X 2 m3/ha/yr gain = 30 000 m3/yr or 4% gain overall. 6. See discussions under ST 5 above.	4. (b) potential gains of between 1% and 4% demonstrated. Conservative estimate ⇒ 2% 6. See ST 5 above. Assume 1% increase in THLB. Sensitivity analysis indicates this results in a 1% increase in MT harvest levels ⇒ 1%. Effects may add or compound. Increased site productivity may further compound these effects. Age reduction factors may overlap, with the combined total being less than when separately analyzed.	
◆ Long Term (161 + yrs)	1. Increase regenerated stand volumes 20% as per MT 3 above. 2. Expand the timber harvesting land base as per ST 5 above*	1. See discussion under MT 3 above. 2. See discussion under ST 5 above.	1. See MT 3 above. ⇒ 20% 2. See discussion under ST 5 above. Assume 1% increase in THLB. Sensitivity analysis indicates this results in a 1% increase in MT harvest levels ⇒ 1%. Effects may add or compound. See note above.	0.96 base 0.10 THLB adj 1.06 Adj base 0.21 rgn vol 0.01 inc THLB 1.28 total

Potential Harvest Forecast

Figure 1.3.9 graphs the potential harvest level that may be attained through implementation of the silvicultural strategies in the preceding tables. This forecast is highly speculative and requires confirmation through computer-based modeling and analysis. It also includes silvicultural activities that are not within the traditional scope of incremental silviculture. Modeling may indicate more precise timing, targeting and program levels associated with incremental silviculture activities than could be developed in this interim strategy.



TSR 1 base case adjusted as follows:

- initial harvest level set at TSR 1 AAC;
- next 4 decades decreased at 10%/decade, same rate as TSR 1 base case;
- mid-term trough & long term increased 10% in recognition of a 11% increase in THLB associated with adding low sites (not previously included in the base case). Because low site, a 10% factor was used rather than 11%.

Figure 1.3.9 Potential harvest forecast, Kingcome TSA

Opportunities to Improve Timber Quality

The effects of incremental silviculture on the future quality of the timber resource were not analyzed in the timber supply review. Information in this section was gathered during the district working session.

Product Objectives

The following are product objectives at the log level for the Kingcome TSA.

Quality Class	Species	Characteristics
Premium Log:	Hemlock	60+ cm DBH, clear, min 5 m log, not less than 3-4 rings/cm on M/P sites and 2-3 rings/cm on G sites.
	Cedar pole	45+ cm min DBH, min 20 m log, low taper, min 20 cm top.
	Balsam	60+ cm DBH, clear, min 5 m log.

Sawlog: Minimum average stand DBH of 45 cm and min. stand vol. of 350 m3/ha.

Available Information Regarding Potential Treatments and Treatable Area

Table 1.3.20

Treatment	Comment/ Potential Treatment Regimes	Treatable Area
◆ Spacing		
◆ Commercial Thinning		
◆ Pruning	Stands are spaced to 850 stems/ha and 2/3rd's of these are pruned (PMFD). Stands on G-M sites will reach 45 cm dbh in 85 yrs and are 45 m tall.	
◆Space/ Prune		
◆Space/ Prune/Fert		

Potential Strategies by Response Time Frame

The following strategies have potential to increase timber quality. These were identified in the district working session. The response time frame is the period in which the anticipated result is expected, not the period in which actions must necessarily commence.

Response Time Frame	Potential Strategy/Action	Discussion / Current Status	Anticipated Result	Premium Log Forecast
◆ Short Term (1 - 20 yrs)	None	Short term harvests will come from existing very old stands which are not treatable to improve quality.	Quality profile of existing old growth will prevail. Assume this is equal to a recent coast-wide estimate of 15%.	15%?
◆ Mid Term (21 - 160 yrs)	1. Prune 100 ha/yr to 3.5 m to yield a 5 m log and prune 75 ha to 5.0 m over the next 2 years.	1. Because of cost, a single pruning lift is normal practice. **Spacing is a pre-requisite to pruning.**	1. 150 ha is approx 5.3% of annual area harvested. However, only 2/3rds of stems are pruned. Assume 3.5 m log is 10% of tree vol. (.053 X 2/3 X .10) ⇒ .5%.	1. 1% clear 2. 3% poles Total: 4%
	2. Manage selected stands to higher densities to yield pole-sized trees.	2. TIPSY indicates that for Cw with an initial density of 4 000 st/ha, SI 30, at age 100, 28% of stems will be > 50 cm dbh.	2. No estimate available. If 1/3 of Cw leading species (14% of THLB) is higher density Cw and 25% of stand is poles ⇒ 3% of future harvests will be poles.	
	3. Space 100 ha/yr to prepare stands for pruning and CT regimes.	3. Target stands are hemlock/balsam > 5 000 st/ha. The TSA has high harvesting and transportation costs. Spacing concentrates volume on fewer, larger logs, thus reducing future costs. Also brings harvest ages forward, enabling CT.	3. Sawlog oriented but pre-requisite to pruning. No premium log effect on its own.	
◆ Long Term (161 + yrs)	As above.	As above.	As above.	4%

Timber Quality Forecast

The foregoing analysis indicates the premium log content of harvests in the mid and long term will be substantially lower than today's levels (4% forecast vs. current estimate of 15%). A higher level of pruning program than currently planned would serve to improve future timber quality, however, there is a lack of treatable stands due to accessibility and cost.

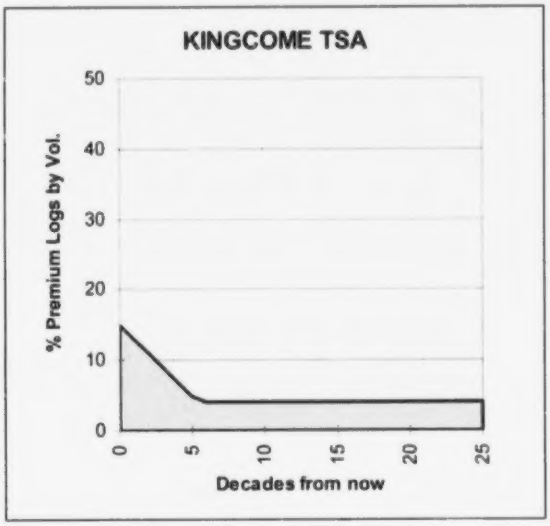


Figure 1.3.10 Potential Quality Forecast, Kingcome TSA

Incremental Silviculture Strategy

This section synthesizes the preceding background information and analysis into an incremental silviculture strategy for the TSA.

General Strategy

The Kingcome TSA has limited ability to overcome forecast reductions in timber supply in the mid term. Central to increasing future timber supply is the use of 2nd generation or better improved seedlings. Ensuring future timber quality is particularly important, given the indicated trend toward substantially lower premium log harvest levels in the future. Spacing is needed to increase piece size, reduce future harvesting costs, and prepare stands for pruning. Pruning is needed to ensure at least a minimal level of premium logs in the future.

Working Targets

The preceding analysis indicates the following working targets are attainable. Figure 1.3.11 illustrates these.

WT 1 (Quantity): Maintain short term harvests at near current levels (TSR 1 AAC of approx. 1.4 million m3/yr) for as long as possible. Manage mid-term timber supplies to yield a harvest of approximately 1.0 million m3/yr and long term supplies to yield 1.3 million m3/yr.

WT 2 (Quality): Manage regenerated stands to yield at least 4% premium logs by volume, with the majority of the remainder being of sawlog quality.

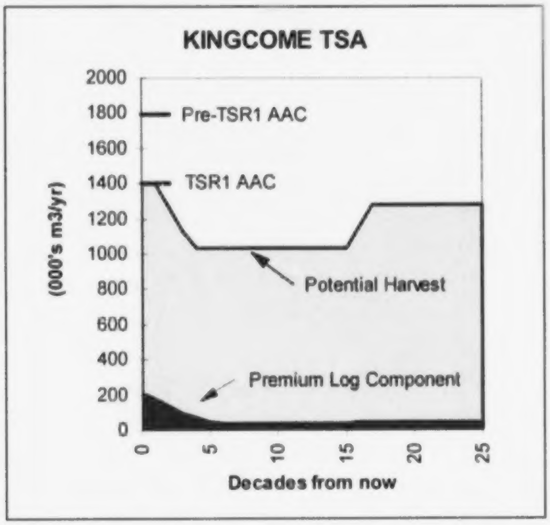


Figure 1.3.11 Combined Potential Quantity and Quality Harvest Forecasts, Kingcome TSA

Log Product Objectives

The following are product objectives at the log level for the Kingcome TSA.

Quality Class	Species	Characteristics
Premium Log:	Hemlock	60+ cm DBH, clear, min 5 m log, not less than 3-4 rings/cm on M/P sites and 2-3 rings/cm on G sites.
	Cedar pole	45+ cm min DBH, min 20 m log, low taper, min 20 cm top.
	Balsam	60+ cm DBH, clear, min 5 m log.

Sawlog: Minimum average stand DBH of 45 cm and min. stand vol. of 350 m3/ha.

Silviculture Strategies to Increase the *Quantity* of Future Timber Supply

The following strategies have identified potential to increase the quantity of the timber supply of the Kingcome TSA. (Strategy numbers correspond with those recorded earlier.)

No.	Strategy
ST2	Achieve green-up 3 years earlier in VQ zones by: (a) planting large genetically improved stock; (b) reducing regeneration delay by increasing the proportion of area planted and planting all areas sooner; (c) brushing for growth enhancement; and (d) fertilizing regenerated stands to increase their growth. (Note: The majority of these are pre free growing silviculture activities. Where licensees can meet their free-growing obligations without undertaking such activities they are not likely to voluntarily undertake them due to the extra cost. In such cases, funding assistance would likely be necessary.)
ST3	Implement partial harvesting / commercial thinning regimes in VQ zones.
MT1	Plant all areas to reduce regeneration delay by 2 years. (Note: This action is with respect to pre free-growing stands and is not within the traditional scope of incremental silviculture.)
MT2	Overcome adjacency constraints in VQO zones by partial harvesting and setting up stands for future commercial thinning through spacing. (Note: There are limited opportunities for commercial thinning in this TSA.)
MT3	Increase regenerated stand volumes 20% by: (a) reducing time to regeneration; (b) using (2nd generation) A class seed or better; (c) using large planting stock; and (d) individual tree fertilization at time of planting and MT 5. (Note: some of these are pre free growing silviculture activities. Licensees have adopted most of these options, but they will not generally use higher cost larger stock if free growing obligations can be achieved without it. (In such cases, funding assistance would likely be necessary.)
MT5	Fertilizing 500 ha/yr of cedar-salal sites for early crown closure.
MT6	Expand the timber harvesting land base by: (a) rehabilitating the remaining 400 ha of backlog NSR and brushing (conifer release) 3000 ha of backlog plantations; (b) draining low site wet lands in the Nawhitti Plateau (10 ha trial); and (c) assessing opportunities for rehabilitating non-commercial alder stands. (d) Maintain cages on NSR areas planted and caged. Ensures this area remains within the THLB.
LT1	Increase regenerated stand volumes 20% by continuing MT3 above.
LT2	Expand the timber harvesting land base by continuing MT 6 above.

Tree improvement is critical to achievement of a number of the preceding strategies.

Strategies to Increase the *Quality* of Future Timber Supply

The following strategies have identified potential to increase the quality of the timber supply of the Queen Charlotte TSA.

No.	Strategy
Q1	One-lift prune (3.5 m) 100 ha/yr, two-lift prune (5.0 m) 75 ha over the next year.
Q2	Manage selected stands to higher densities to yield pole-sized trees.
Q3	Space 100 ha/yr to increase avg. piece sizes and prepare stands for pruning and commercial thinning.

Strategies to Increase the *Quantity* or *Quality* of Future Habitat Supply

(Note: The following strategy was developed in the district working session during discussion of timber quantity strategy MT7.)

The following strategy has identified potential to increase the quality or quantity of the habitat supply of the Kingcome TSA.

No.	Strategy
	No strategies proposed at this time.

Summary of Information and Research Needs

During the assessment process, the following needs for further information and research became apparent. The outcome of these have implications for an incremental silviculture strategy. Bracketed numbers refer to the strategy numbers under which the need is identified.

1. TIPSY yields for hemlock stands may be underestimated and require confirmation. (ST3)
2. OAF 1 factor of 15% requires confirmation. Survey techniques are available. Requires statistical validity at the management unit level if to be used for AAC determination. (MT3)
3. Old growth site index and existing stand volume estimation studies require completion. It is anticipated that site indexes are underestimated and existing stand volumes are overestimated and that these effects may prove offsetting to some extent. (ST1)
4. Hemlock response to fertilization is variable. Were the causes for this determined there may be considerable potential for hemlock fertilization to improve the harvest forecast. (ST2d, ST4, MT5a&b,MT5e, LT1)
5. Trials are required to determine costs, efficacy and social acceptability of draining low-site forest land to increase productivity. (ST5, MT6, LT2)
6. The amount of area in alder stands which are not likely to be commercially harvested and therefore have potential for rehabilitation requires determination. (ST2a, ST5, MT6, LT2)
7. Research is needed to determine the causes and extent of poor occlusion of branch stubs in pruned cedar which can result in hollow tunnels extending in the tree trunk for some distance past the end of the stub. (Q1)

Silviculture Regimes and Investment Priorities

The following table indicates incremental silviculture regimes which are suitable to attaining the above working targets and strategies.

Table 1.3.8

Regime Table. Kingcome TSA. August .

		Strategy	Opportunity Area (Ha/Yr)	Timber Supply Effects			Quality	Habitat	Direct Silv. Jobs Days/ha	Direct Cost $/ha	Rar
Regimes				Short	Medium	Long					
	Backlog										
1	site prep & planting	ST5, MT6,LT2	155	+	+	+	0	0	4	3000	1
2	conifer release / brushing	ST2a	500	+	+	+	0	0	4	700	1
	Spacing										
3	HemBal M-G <10m >5000 to 850 (set up for CT)	MT2b, Q3	100	0	+	0	+	+/0	3	1500-1800	4
	Pruning (2/3 of spaced stands)										
4	3.5 m 1st lift	Q1	0	0	0	0	+	+	5	1800	5
5	5m prune	Q1		0	0	0	+	+	6	2200	5
	Fertilization										
6	Cw age 10-40 M,P	ST2d, ST4 MT3e, MT5a&b LT1	500	+	+	+	+	+	.1	300	2
	Expand THLB										
7	Drainage	ST5b, MT6, LT2	10, study only*	+	+	+	0	-	1	3000	3
8	Alder rehabilitation	ST5c, MT6, LT2	assessment							☐	

* Experimental. 1 yr project only

Incremental Silviculture Program

The following annualized program will contribute to achieving the above goals and strategies.

Table 1.3.9 - Ha, Kingcome TSA (Total TSA), August 2000

Year	Surveys	Backlog Prep/Plant	Backlog Brushing	Space	Prune - 1	Prune - 2	Fertilize	Drain	Total
1	4,175	115	800	200	175	0	700		6,165
2	3,105	195	600	120	20		600	0	4,640
3	2,995	100	550	120	50	-	550		4,365
4	3,115	0	550	120	20	-	700		4,505
5	2,965	-	550	120	20	-	550		4,205
Subtot Yr 1 - 5	16,355	410	3,050	680	285		3,100	0	23,580
6 - 10	15,000	-	500	500	500	-	2,500	-	19,000
Total Yr 1 - 10	31,355	410	3,550	1,180	785		5,600	0	42,580
Unit cost ($/ha)	48	3,298	950	2,050	2,429		385		

Table 1.3.10 - $ 000s, Kingcome TSA (Total TSA)

Year	Surveys	Backlog Prep/Plant	Backlog Brushing	Space		Prune	Fertilize	Drain	Total
1	199	379	760	410	425	0	270	-	2,443
2	148	643	570	246	49		231	0	1,887
3	143	330	523	246	121	-	212	-	1,575
4	148	0	523	246	49	-	270	-	1,236
5	141	-	523	246	49	-	212	-	1,171
Subtot Yr 1 - 5	780	1,352	2,898	1,394	692	0	1,196	0	8,311
	714	-	475	1,025	1,214	-	964	-	4,394
Total Yr 1 - 10	1,495	1,352	3,373	2,419	1,906	0	2,160	0	12,705

Job Outcomes

The following are the anticipated job outcomes associated with the preceding program, assuming the program is maintained into the future as necessary to achieve the working targets.

Table 1.3.11 - Job Outcomes, Kingcome TSA, August 2000

Short term *employment associated with undertaking the silviculture activity, in person years*

Year	Surveys	Backlog Prep/Plant	Backlog Brushing	Space	Prune	Fertilize	Drain	Total
1	-	1.3	11.	4.4	4.9	0.4	-	22.
2	-	2.2	8.3	2.7	.6	0.3		14.
3	-	1.1	7.6	2.7	1.4	0.3	-	13.
4	-	0	7.6	2.7	.6	0.4	-	11.
5	-	-	7.6	2.7	.6	0.3	-	11.
Subtot Yr 1 - 5	-	4.5	42	15.	8.1	1.	0	71.2
6 - 10	-	-	6.	11.	13.9	1.	0	33.
Total Yr 1 - 10	-	4.5	49	16.	22.0	3.	0	105

Note: Assumes 180 days of silviculture work = 1 job (Source: Jobs and Timber Accord)

Table. 1.3.12 *Employment associated with improved quality and quantity of the timber resource* [1]

Decade	Harvest Increment ('000 m3)	Incremental Jobs			
		per year by decade		Total by decade	
		TSA[2]	Prov[3]	TSA	Prov
1	140	27	199	266	1,987
2	126	24	179	239	1,788
3	113	22	161	215	1,609
4	112	21	159	213	1,592
5	137	26	195	260	1,945
6	137	26	194	260	1,943
7	137	26	194	260	1,943
8	137	26	194	260	1,943
9	137	26	194	260	1,943
10	137	26	194	260	1,943
11	137	26	194	260	1,943
12	137	26	194	260	1,943
13	137	26	194	260	1,943
14	137	26	194	260	1,943
15	137	26	194	260	1,943
16	193	37	273	366	2,734
17	249	47	354	474	3,540
18	249	47	354	474	3,540
19	249	47	354	474	3,540
20	249	47	354	474	3,540
21	249	47	354	474	3,540
22	249	47	354	474	3,540
23	249	47	354	474	3,540
24	249	47	354	474	3,540
25	249	47	354	474	3,540
Total				8,422	62,941

Notes

1 Assumes continuation of on the incremental silvicIture program beyond the first 10 years, in accordance with the strategy. The total harvest increment is associated with all the silvicultural practices documented in the "Opportunities" section and is only partly attributable to spacing and fertilization practices. Some of the increase may be associated with pre-free growing silviculture that was not current practice at the time of TSR1.

2 Assumes 0.19 TSA level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Kingcome SEA)

3 Assumes 1.42 Provincial level harvesting and processing jobs (PYs) per 1000 cubic metre (Source: Kingcome SEA)

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B.C. Ministry of Forests. 1991. *Regional Stand Tending Guidelines*. Vancouver Circular Letter VR91-558. Vancouver Forest Region, Nanaimo, British Columbia. 24p + Appendices.

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Pedersen, L. 1996. *Kingcome Timber Supply Area Rationale for Allowable Annual Cut (AAC) Determination*. Victoria, British Columbia. 49p + Attachments.

Timberline Forest Inventory Consultants Ltd. 1997. *Forest Level Benefits to Commercial Thinning and Fertilization*. Prepared for the B.C. Ministry of Forests, Forest Practices Branch, Victoria, British Columbia. 64p.

1.3.2 Key Resource Management Planning Issues for Port McNeill Forest District's TFLs:

1.3.2.1 Canadian Forest Products Ltd:

1.3.2.1.1 Basic Data

Following is the basic data as outlined in TFL 37 Management Plan 8 approved by the Ministry of Forests.

Land Area

TFL 37 covers approximately 188,745 hectares on Northern Vancouver Island, of which 54% are considered within the net operable landbase for the long term. Schedule A lands within TFL 37 amount to 25,642 hectares (14%), including 4,725 hectares (2.5%) of private land and 20,917 hectares (11%) of private timber in Timber Licences (TLs).

AAC

The current AAC is 1,068,000 m^3 per year, under current management and the existing timber harvesting landbase for TFL 37.

Harvest Forecast

Figure 1.3.12: Harvest forecast based on most recent timber supply analysis.

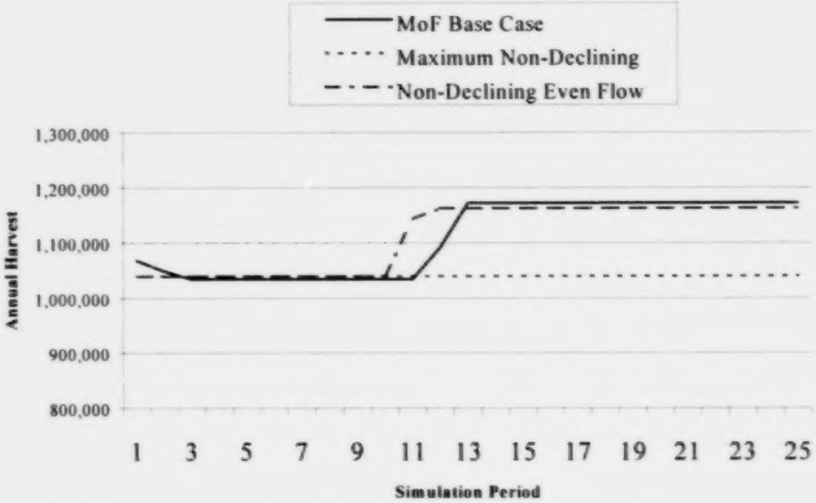


Figure 1.3.13 Site Types

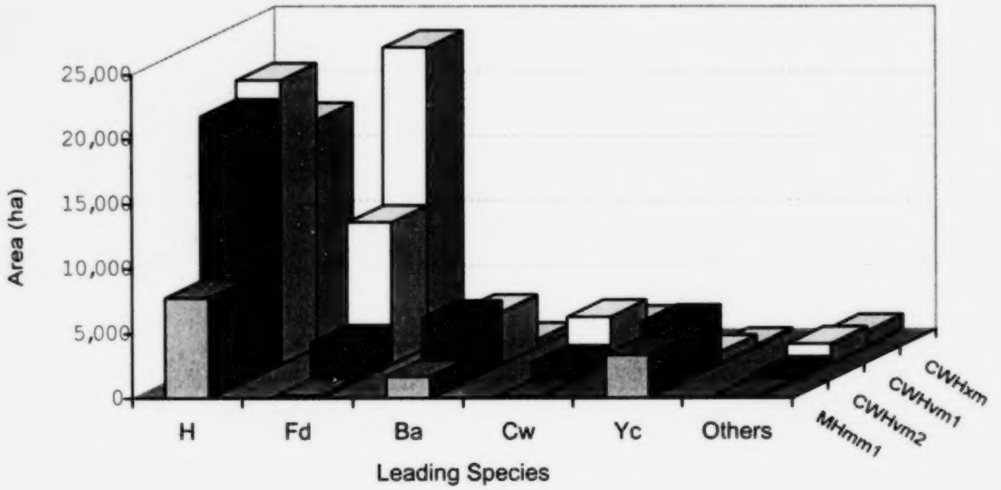


Figure 1.3.14 Current Age Class Structure for TFL 37.

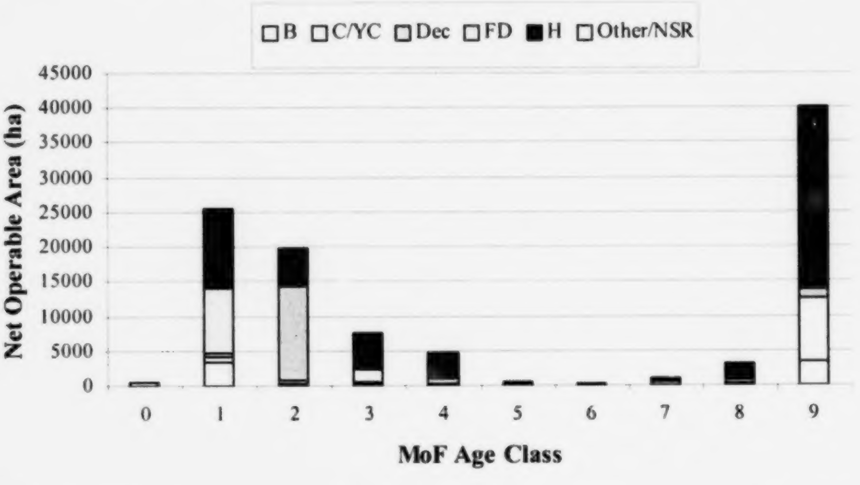


Figure 1.3.15_Current Species Distribution

1.3.2.1.2 Issues

The following comments and sensitivity analysis is taken from the Timber Supply Analysis Report for TFL 37.

Harvest Schedule

In the MOF Base Case the current AAC (1,068,000 m^3) is maintained for one decade with minor declines of 1.8% in year 11 and 1.4% in year 21. After year 110 the harvest rate rises considerably to 1,172,100 m^3 for the remainder of the 250-year planning horizon.

Timber Availability

The existing inventory of mature timber on TFL 37 is approximately 40 million cubic metres. Short term harvesting utilizes this inventory until existing and future managed stands become available. The key factors influencing the short-term harvest rate are:

1. The amount of mature timber on the TFL.
2. The timing of the availability of managed stands for harvest.

The critical period for determining the short-term harvest level occurs 50 to 70 years into the future at which time managed stands are required to make up a significant portion of the annual harvest.

Sensitivity Analysis

Adding Uneconomic Stands

Adding 3,169ha of stands classified as uneconomic allows the current AAC to be maintained for 10 years longer than in the MoF Base Case. There is still a required drop of approximately 1.5% during the same mid-term period until year 110.

Removing Technically Inoperable Areas

Excluding technically inoperable areas, 6,998ha (7%) of the net operable forest, results in declines throughout the planning horizon. In this sensitivity a 10% drop in harvest rate is required after maintaining the current AAC for 10 years. The long-term rate is approximately 4% lower than in the MoF Base Case. This indicates that the sites occupied by technically unconventional areas are of lower productivity on average than the stands remaining in the net operable landbase.

Removing Marginally Economic Areas

In this simulation 8,493ha of mature timber designated as marginally economic are removed from the timber harvest landbase. The current AAC cannot be maintained in this sensitivity without having a more noticeable reduction in the mid-term harvest level. Therefore a drop of approximately 1.5% is required in the first decade of the simulation with a further drop of 10% to the mid-term level.

Forest Cover

Forest cover requirements related to REA disturbance and green-up do not significantly constrain the harvest schedule at any time during the planning horizon. Only in a few cases does the disturbance level reach the maximum permitted. The Woss-Zeballos LIA (REA 54) and Tsitika GFA (REA 61) reach maximum disturbance limits during periods 3 and 4. Other smaller REAs reach maximum disturbance limits on a very infrequent basis, but these areas only make up a very small component of the timber harvesting landbase.

Growth and Yield

Any change in the time required for managed stands to reach minimum harvest age results in a modified harvest schedule. Similarly, adjusting managed stand volumes changes the harvest level developed in the MoF Base Case.

Sensitivity Analysis

Changes in Regeneration Delay

Reducing regeneration delay to zero makes a minor improvement in the harvest schedule. Alternatively, increases to regeneration delay result in decreased harvest rates. An increase to two years causes a mid-term reduction of approximately 1.5% compared to the MoF Base Case. There is less than a 1% difference in the long-term harvest rate. Increasing regeneration delay impacts negatively on the harvest for two reasons:

1. Areas take longer to reach minimum harvest age.
2. Harvested areas take longer to reach minimum green-up height.

Changes in MSYT Minimum Harvest Age

Increasing managed stand yield table (MSYT) minimum harvest age by 10 years has a more significant impact on the harvest schedule compared with increased regeneration delays. The MoF Base Case initial harvest rate of 1,068,000m^3/year cannot be sustained in this scenario without having a significant drop in harvest after year 10. The short and mid-term harvest is 3 – 13% below that of the MoF Base Case. There is virtually no difference in the long-term harvest between this scenario and the MoF Base Case. This is because not all stands are harvested as soon as they reach minimum harvest age in the later decades of the simulation. In the short and mid-term, managed stands are harvested as soon as they become merchantable in both simulations.

Reducing MSYT minimum harvest age by 10 years improves the short and mid-term harvest levels by as much as 5%. It is important to note that there is no mid-term decline in this scenario compared with the MoF Base Case. In addition, the rise to the long-term harvest level occurs 20 years earlier in this scenario. The long-term harvest rate is slightly lower than in the MoF Base Case because the harvested stands are providing less volume at minimum harvest age. Harvesting of managed stands begins in year 51, as in the MoF Base Case. However, 7,130,000m3 of managed stand volume are harvested between years 51 and 60 in this sensitivity compared to 4,768,000m3 in the MoF Base Case during the same decade. The Products-Based Silviculture option examines MSYT minimum harvest ages that are likely to be reduced in future to meet log product objectives.

Changes in Managed Stand Yield Table Volume

Reducing managed stand volumes by 10% does not significantly impact the short-term harvest rate until year 21. At that point the harvest is approximately 7% below that of the MoF Base Case. Although volumes are reduced the minimum harvest ages were not changed from the MoF Base Case. Therefore the harvest reduction is not as immediate or significant as increasing minimum harvest age for these stands. The long-term harvest rate is 10% below that of the MoF Base Case, equivalent to the drop in volume for long-term stands.

Increasing managed stands volumes by 10% improves the harvest rate by 3% in the mid-term and 10% in the long-term. The full impact of improving the yields from these stands is realized in this scenario. Figure 6.8 illustrates the harvest rate over time for some of the growth and yield sensitivity runs.

Management Considerations

Management considerations include landscape level biodiversity, wildlife management and inclusion of the 20-Year Plan.

Sensitivity Analysis

Changes in Disturbance and Green-up

In the Increase Maximum Disturbance scenario, REA disturbance was increased to a "3-pass" approach for most areas (maximum 33% < 3 metres) or up one level for visually sensitive areas (visual 1 to visual 2, etc.). There was virtually no difference in the periodic harvest rate (< 0.5%) compared with the MoF Base Case at any time. Similarly, decreasing the maximum disturbance limit to simulate a "5-pass" system (maximum 20% < 3 metres) or increasing visually sensitive areas (visual 2 to visual 1 etc.) there was less than 1% difference in the harvest rate developed for the MoF Base Case. These results confirm that maximum disturbance is not a crucial element in determining the harvest potential from TFL 37.

A number of alternative green-up height requirements were assigned to the Nimpkish HIA and the Tsitika and Woss-Vernon GFAs for this series of analyses. As noted for the maximum disturbance adjustments, these changes to green-up height had no impact on the harvest rate at any time during the planning horizon compared to the MoF Base Case. This is because managed stands achieve green-up in a short time (i.e. many in less than 10 years) because of the high productivity of the landbase. More important is the timing of managed stands reaching minimum harvest age. It is expected that green-up on the Nimpkish HIA will be lower than 3.0m and this will provide and improved harvest potential for the TFL. This is also noted in the 20-Year Spatial Analysis scenario.

Sensitivity to Incorporating the 20 Year Plan

As an alternative to the typical 20-year plans included in management plan submissions a spatial timber supply analysis was conducted for TFL 37. In addition to the landbase netdowns, growth and yield assumptions and management considerations included for the MoF Base Case option, cutblocks were identified and included in the landbase. The majority of the cutblocks were designed by Canfor engineers and covered the mature and older immature stands. Additional cutblocks were designed in the GIS environment based on similar age categories. These cutblocks were then added to the analysis database and allowed cutblock adjacency and silviculture green-up rules to be included in analysis simulation.

The spatial analysis is not intended to represent an operational plan but it does provide one possible solution to locating the harvest on the ground. The results provide an important link between the harvest schedule developed in the non-spatial analyses and operational planning which requires specific harvest locations on an annual basis. Results of the 20-Year Spatial Analysis are then mapped to identify which cutblocks are harvested during each 5-year period of the simulation. Note that 5-year simulation periods were used in the 20-Year Spatial Analysis. The total planning horizon was 20 years. The results indicate that the initial harvest level of 1,068,000m^3/year (the current TFL 37 AAC) developed for the MoF Base Case non-spatial analysis option can be carried for at least 5 years in all of the 20-Year Analysis scenarios. ***A reduction of 4.5% between the first and second periods in the MoF Base Case spatial analysis is required to meet the 3.0m silviculture green-up requirements.*** All other forest cover requirements are met during all periods of the spatial analyses as they were in the non-spatial analysis.

Silviculture green-up is a key issue in developing the short-term harvest rate on TFL 37. This was not clearly identified in the non-spatial analysis because of the model's ability to harvest small forest stands (as small as 0.25ha) compared with the larger units selected for harvest in the spatial analysis.

Reducing silviculture green-up in the Nimpkish HIA to 2.25m allows the non-spatial MoF Base Case harvest schedule to be carried for the entire 20 years of the planning horizon. Similarly, reducing silviculture green-up by approximately one year in the Enhanced Green-up scenario allows the harvest schedule to match that of the MoF Base Case non-spatial analysis.

1.3.2.1.3 Incremental Silviculture History

Stand Tending

Stand tending on the TFL has included spacing, commercial thinning (CT), fertilization, conifer release, and pruning. Juvenile spacing and fertilization assumptions were integrated into the most recent timber supply analysis. Table 1.3.13 outlines incremental silviculture treatments back to 1970.

Table 1.3.13 Incremental Silviculture Summary 1970 to 1997

Year	Juvenile Space (ha)	Prune (ha)	Fertilize (ha)	Commercial Thinning (m^3)	Commercial Thinning (ha)	Residual Falling (ha)	Site Conversion (ha)	Conifer Release (ha)
1970								
1971							92	
1972								
1973								
1974								
1975								
1976								
1977	9							
1978	42		15					
1979	168		383					
1980	842		740		15			42
1981	983	20	965				40	72
1982	1,726	65	1,465				13	103
1983	937	112	687				139	51
1984	400	262					50	
1985	389	139		724	8		45	
1986	361	78		721	4		27	
1987	520	53						62
1988	280	48	60	1,110	9	740		
1989	409	49	184	7,986	55	606	6	
1990	408	46	1,515	5,301	35	526	8	
1991	1,177	43		11,902	74	494		
1992	148	13	135	8,567	80	275		
1993	312	9		8,567	108			
1994	672	127	619	12,800	89	340		
1995	530	160	323	12,228	7			
1996	160	13	305	6,386	37	400		
1997	363	191	319	9099	56			
1998	256	133						
1999	154	125	1658					
Totals	10,990	1,553	9,373	85,391	648	3,381	420	
Annual Average	542	90	406	7116	54			

1.3.2.1.4 Opportunities to Increase Timber Supply

Products Based Minimum Harvest Ages

The Enhanced Silviculture (tree improvement) MSYTs provide higher volumes for future MSYTs and therefore the overall harvest rate is higher in this scenario. In some situations reduced MSYT minimum harvest ages can result in decreased long-term harvest rates because the volumes provided at younger ages are insufficient to support the harvest target. The productive capacity of the landbase is therefore not achieving its potential. This is not the case for the Products-Based Silviculture scenarios as revisions to the minimum harvest ages were not great and forest cover disturbance is not constraining.

Products Based MSYTs

The positive results of adjusting minimum harvest ages are clearly demonstrated in the two Products-Based Silviculture option scenarios. Future MSYT minimum harvest ages were reduced between 5 and 10 years for many of the MSYTs. The additional volume available in the short-term is due to managed stands becoming available for harvest earlier during the critical period when the existing mature inventory is at a low point. Long-term harvest levels are also improved because stands reach merchantable age in less time.

Products Based Enhanced Silviculture (Tree Improvement) MSYTs
The Enhanced Silviculture MSYTs incorporate second generation tree improvement and provide greater volumes therefore the overall harvest rate is higher in this scenario. In some situations reduced MSYT minimum harvest ages can result in decreased long-term harvest rates because the volumes provided at younger ages are insufficient to support the harvest target. The productive capacity of the landbase is therefore not achieving its potential. This is not the case for the Products-Based Silviculture scenarios as revisions to the minimum harvest ages were not great and forest cover disturbance is not constraining. (Figure 1.3.16)

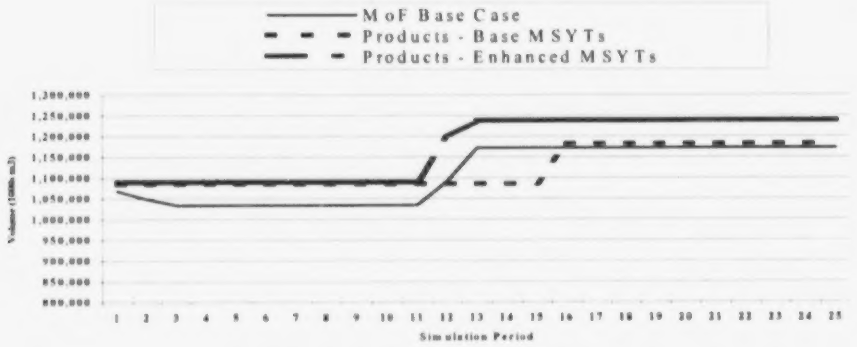


Figure 1.3.16 Products Based Harvest Flow

Enhanced Silviculture

The timber supply impacts of enhancing the level of incremental silviculture on managed stands were reviewed in this option. Canfor currently has an extensive program of spacing, fertilization, first generation seed orchards and commercial thinning. Gains from second-generation tree improvement, spacing and fertilization were evaluated in this set of analyses. A new set of managed stand yield tables incorporating gains related to these silviculture programs was developed for this option.

Additional Tree Improvement
Estimates associated with improvements from second-generation seed orchard planting stock are included in this scenario. ***The analysis results show that short-term gains of about 2% are possible, while the long-term harvest level is increased approximately 8% over the MoF Base Case.*** The increase to the long-term harvest rate occurs in year 101 in this scenario compared to year 111 in the MoF Base Case. Minimum harvest ages for the revised MSYT are only about three years less in this scenario compared with the MoF Base Case. In the long-term as the inventory of mature managed stands rises, the harvest increases to take full advantage of the enhanced productivity associated with tree improvement.

Tree Improvement plus Spacing
Similar gains are noted in the long-term for this scenario as were described for the Additional Tree Improvement scenario, approximately 8% above the MoF Base Case. However in the short-term the harvest level is slightly lower (1%) compared with the MoF Base Case. This is a result of older minimum harvest ages for the managed stands that include spacing programs. Minimum harvest ages were based on culmination of MAI for this scenario.

Tree Improvement plus Fertilization
Comparable short and long-term gains to those in the Additional Tree Improvement scenario are noted for this scenario, approximately 8% above the MoF Base. Very few stands were assigned to fertilization yield tables in this scenario because of limitations within the growth and yield models used to develop the tables. Some adjusting of SI50 values was necessary to develop the yield tables, which resulted in less definitive results. In addition, areas with SI50 of 35m or more are not expected to show any additional volume gains from fertilization. ***Long term research results indicate that multiple fertilization treatments result in significant increases in merchantable volume over a rotation. Weetman et al (1997) report that Fd stands fertilized on 8 year intervals over an 80 year rotation will yield a 13% increase in merchantable volume and will provide a 7% return on invested funds.***

Tree Improvement plus Spacing plus Fertilization
The harvest schedule developed for this scenario was virtually the same as the MoF Base Case up to year 100 when the increase to the long-term harvest rate commences. As with the other two scenarios in this option, this increase takes place one decade earlier than in the MoF Base Case because of the improved productivity associated with the enhanced MSYTs. The harvest rate up to year 100 is slightly lower than the MoF Base Case, as noted for the Tree Improvement plus Spacing scenario. Again, this is due to the older minimum harvest ages associated with the MSYTs that include spacing. Figure 1.3.17 provides a graphic summary of the harvest schedules for the Enhanced Silviculture option.

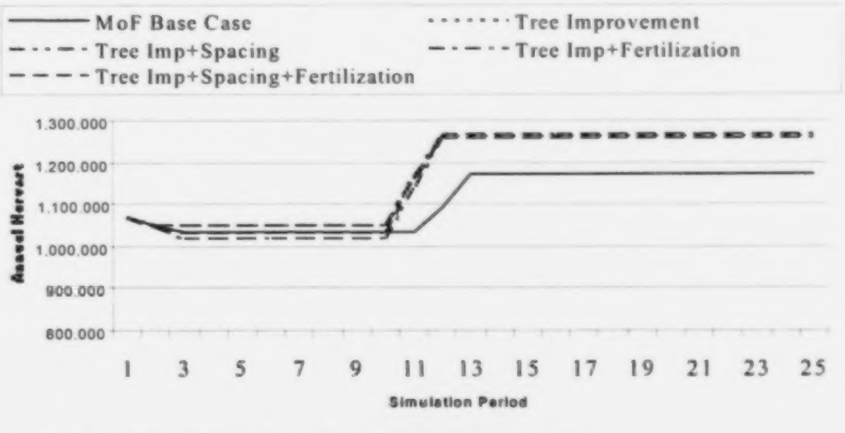


Figure 1.3.17 Enhanced Silviculture Harvest Flow

Note that increases in available volume in the various scenarios illustrated in Figure 1.3.17 are due to tree improvement and fertilization. Potential Strategies by Response Time Frame

The response time frame is the period in which the anticipated result is expected , not the period in which the actions must commence. Potential Strategies are outlined in Table 1.3.14

Table 1.3.14 Potential Strategy by Time Frame

Response Time Frame	Strategy/Action	Anticipated Result
Short Term (1 –20 yrs)	1.Reduce time to 3m greenup by at least one year. (Currently spatial constraints result in a reduction in harvest of 4.5% in the short term) This would be accomplished by increased use of: • Large planting stock at higher densities. • Time of planting fertilization. • Aggressive brush control and animal browse protection. The above treatments are a part of our basic silviculture program, however opportunities exist to increase levels in investment. These treatments are not currently eligible for FRBC Enhanced Forestry funding.	Maintain MoF base case harvest level.
Mid Term (21 – 150 yrs)	1. Increase investment in second-generation seed orchards. With sufficient investment, all planting stock will originate from second generation Class A seed. 2. Increase levels of aerial fertilization. Treat all spaced and pruned stands plus selected Fdc leading stands on 8 year intervals (1500 ha per year) 3. Treat stagnating younger Fdc, Hw and Cw stands with SCHIRP fertilizer to reduce effect of salal competition (1500 ha per year)	1. Increase harvest level by 2%. (20,000 m^3) 2. Increase stand yields by 13% on treated stands. (Weetman et al –1997) 3. Reduce adjacency constraints. Additional monitoring is required to accurately determine effect on volume.
Long Term (151+ yrs)	1.Increase investment in second generation seed orchards. By year 20 all planting stock is expected to originate from second generation Class A seed 2. Increase levels of aerial fertilization. (1100 - 3000 ha per year).	1. Increase harvest level by 8%. The increase to long term actually occurs in year 101 rather than 111 in base case. 2. Increase stand yields by 13%

The timber supply analysis indicates that the greatest opportunity for increasing timber supply across all time frames exists by ***increasing investment in tree improvement and multiple fertilization treatments (time of planting and intervals of 8 years).***

1.3.2.1.5 Opportunities to Improve Timber Quality

Product Objectives

The following section on product objectives is taken from Management Plan 8 for the TFL.

Table 1.3.15 Product attributes for future managed stands

Product Grade	**Product Attributes**				
	Butt Diameter Range (cm)	**Max Knot Size (cm)**	**Max Taper (cm/ 3m)**	**Minimum Length (m)**	**General Description**
Premium	60 +	5.0	2.5	5.0	Large, clean sawlogs –dominant component of stands. Small knots and minimum taper. Pruned Fd and Hw unless knots will meet specification.
Standard	40 – 59	10.0	2.5	5.0	Logs too small or too rough to meet Premium. Other possible sorts include Cw poles and house/cabin logs.
Gang	25 – 39	10.0	2.5	5.0	Smaller, pole-sized material suitable for peeling or sawing.
Utility	0 – 24			3.0	Small material or rough large pieces unsuitable for sawlogs.

The fundamental component of our product strategy is the link between stand-level objectives and our forest estate model. Stand projection data used in the timber supply analysis was derived by grouping each BEC subzone and site series within TFL 37 into analysis units. The resultant yield tables provided additional stand and stock tables to explore our product strategy.

Tables 1.3.16 through 1.3.19 describe the product targets established for each BEC subzone and site series within TFL 37. These product targets consider our basic and incremental silviculture strategies, as well as the corresponding stand projection data used in the timber supply analysis. Our objective was to specify minimum harvest ages required to produce the desired attributes. The following approach was used:

- Select species that maximise yields while giving due consideration to unique species (Cw, Yc, and Pw) where possible and ecologically suitable.
- Set minimum volume per hectare limits that provide a reasonable expectation of economical harvesting operations.
- Set piece size targets. Table 1.3.11 provides a description of proposed second growth log grades. Butt diameters are used as TIPSY presents only DBH in output.
- Set minimum piece size targets for each site series (Tables 1.3.16 to 1.3.19). Dimensions chosen allow for a wide variety of potential products without the need to delay rotations beyond MAI culmination on the majority of our sites.

Table 1.3.16 MHmm1 Product Strategy

Site Series No.	Product Targets					
	Product Grade	Minimum DBH (cm)	Percent of Total Volume	Minimum Total Volume (m^3/ha)	Minimum Harvest Age	Expected Species Mix at Rotation (Percent by Volume)
01	Gang	30	67	398	130	Hw/Hm (30) Ba (44) Yc (26)
01p	Gang	30	67	398	130	Hw/Hm (28) Ba (42) Yc (30)
03	Gang	30	67	398	130	Hw/Hm (24) Ba (44) Yc (32)
05	Gang	30	67	386	110	Hw/Hm (22) Ba (38) Yc (40)
07	Gang	35	75	350	125	Hw/Hm (24) Ba (30) Yc (46)

Table 1.3.17 CWHvm2 Product Strategy

Site Series No.	Product Targets					
	Product Grade	Minimum DBH (cm)	Percent of Total Volume	Minimum Total Volume (m^3/ha)	Minimum Harvest Age	Expected Species Mix at Rotation (Percent by Volume)
01	Standard	45	33	750	70	Hw (60) Ba (21) Yc (19)
01s	Gang	35	67	640	85	Hw (65) Ba (8) Yc (21) Cw (6)
01p	Gang	35	67	663	95	Hw (63) Ba (8) Yc (21) Cw (8)
03	Gang	35	75	767	95	Fdc (20) Cw (41) Hw (38) Ba (1)
04	Standard	45	33	668	75	Hw (74) Yc (26)
05	Gang	35	75	767	95	Ba (56) Yc (30) Hw (14)
06	Gang	35	75	745	95	Ba (22) Yc (39) Hw (39)
06s	Gang	30	75	455	125	Hw (46) Ba (12) Yc (38) Cw (4)
06p	Gang	30	75	455	125	Hw (45) Ba (12) Yc (39) Cw (4)
07	Gang	35	75	751	85	Ba (52) Yc (30) Hw (18)
09	Standard	45	50	617	100	Cw (38) Yc (44) Hw (18)
11	Gang	35	75	414	130	Cw (42) Yc (48) Hw (10)

Table 1.3.18 CWHvm1 Product Strategy

Site Series No.	Product Targets					
	Product Grade	**Minimum DBH (cm)**	**Percent of Total Volume**	**Minimum Total Volume (m^3/ha)**	**Minimum Harvest Age**	**Expected Species Mix at Rotation (Percent by Volume)**
01	Standard/Premium	45	50	816	60	Fdc(71) Hw(19) Cw (10)
01s	Gang	30	67	372	130	Hw (81) Cw (18) Ba (1)
01p	Standard	45	33	715	70	Hw (82) Cw (18)
03	Standard	45	33	692	55	Fdc(66) Hw(19) Cw (15)
04	Standard	45	50	708	80	Fdc(66) Hw(19) Cw (15)
05	Standard/Premium	45	67	959	55	Hw (56) Cw (15) Ba (29)
06	Standard	45	50	877	65	Hw (56) Cw (22) Ba (22)
06s	Standard	45	50	350	120	Hw (69) Cw (16) Ba (15)
06p	Gang	35	67	707	90	Hw (69) Cw (22) Ba (9)
07	Standard/Premium	45	50	906	80	Hw (38) Cw (40) Ba (22)
09	Standard/Premium	45	50	890	70	Hw (35) Cw (39) Ba (26)
12	Gang	35	75	418	130	Cw (40) Yc (40) Hw (19) Ba (1)
14	Standard	45	67	653	80	Cw (86) Hw (13) Ba (1)

Table 1.3.19 CWHxm Product Strategy

Site Series No.	Product Targets					
	Product Grade	**Minimum DBH (cm)**	**Percent of Total Volume**	**Minimum Total Volume (m^3/ha)**	**Minimum Harvest Age**	**Expected Species Mix at Rotation (Percent by Volume)**
01	Standard/Premium	45	67	949	65	Fdc (64) Cw (11) Hw (25)
01p	Standard	45	33	640	65	Fdc (62) Cw (15) Hw (23)
03	Standard	45	50	756	70	Fdc (81) Cw (14) Hw (5)
05	Premium/Standard	45	67	884	50	Fdc (70) Cw (22) Hw (8)
06	Standard	45	33	780	70	Hw (70) Cw (30)
06p	Gang	35	75	813	100	Fdc (2) Cw (30) Hw (68)
07	Premium/Standard	45	67	876	55	Fdc (67) Cw (27) Hw (6)
08	Premium/Standard	45	67	961	50	Fdc (69) Cw (26) Hw (5)
12	Gang	35	67	762	75	Cw (81) Hw (19)

Each site series has a proposed product, minimum DBH, percent of total volume and minimum total volume requirements. All criteria must be met before the stand is harvested in the forest estate model. For example, for the CWHxm 01 site series, two thirds of the stand must be at least 45cm and net volume must be 949 m^3/hectare before the stand will be cut. Based on our species and site quality assumptions for this site series, this will occur at age 65.

Potential Treatments

The following outlines potential treatments, some of which are ineligible for FRBC Enhanced Forestry funding, (Table 1.3.20). Stand selection criteria are outlined in TFL MP 8.

Table 1.3.20 Potential Treatments

Treatment	Potential Treatment Regimes	Treatable Area (annual)
High Density Plantations	Manage highly productive sites in the CWHxm and vm1 to high densities to promote rapid crown lift, low taper, and consistent log sizes. This treatment is aimed at reducing knot frequency and size on the dominant component of stands thereby increasing the proportion of premium sawlogs.	350 ha
Pruning	Remove branches on dominant component of stands on our best sites to maintain or increase proportion of premium sawlogs.	60 ha
Juvenile Spacing	Juvenile space to 1000 sph (overstory) and retain understory of 1/3 average stand height to create a two tiered stand. This is designed to ameliorate volume loss, encourage self-pruning, and provide a layer for subsequent commercial thinning from below. Stand level modelling for spacing indicates a reduction in volume at rotation with a higher mean diameter. Product piece size objectives can be met sooner at the cost of a reduced stand volume. Due to model limitations however, volume estimates did not take understory tier and interim commercial thinnings into account.	10 - 100 ha

Potential Strategies by Response Time Frame

The response time frame is the period in which the anticipated result is expected, not the period in which the actions must commence. The following is based on timber supply analysis assumptions and FRBC multi year funding levels. This does not include a financial analysis of potential returns/losses resulting from juvenile spacing and pruning expenditures.

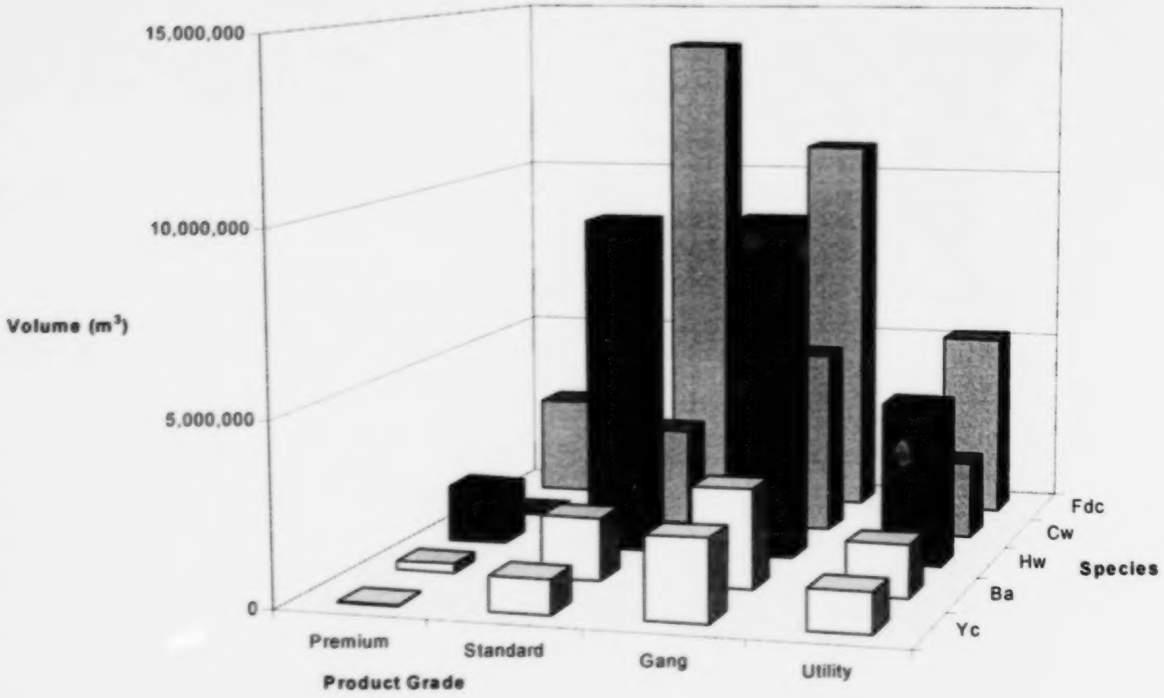


Figure 1.3.19 Expected managed stand volumes by species and product

Table 1.3.21 Potential Actions to Increase Timber Quality

Response Time Frame	Strategy/Action	Anticipated Result
Short Term (1 - 20 yrs)	None	
Mid Term (21 - 150 yrs)	1. Juvenile space 300 ha. 2. Prune 150 ha.	1. and 2. Maintain historical proportion of premium sawlogs. Reduce proportion of utility grade.
Long Term (151+ yrs)	As above	As above

Timber Quality Forecast Scenarios

This quality scenario is based on the assumptions built into the most recent timber supply analysis. To get a picture of species and grade distributions across the landbase, estimates of expected volumes at product rotation and net operable area were extrapolated into the long term. This provides the species and grade distribution illustrated in Figure 1.3.19.

Figures 1.3.20 and 1.3.21 further clarify the picture by expressing expected percent species distribution and percent log grade distribution across the landbase.

Figure 1.3.20 ***Projected Species Distribution***

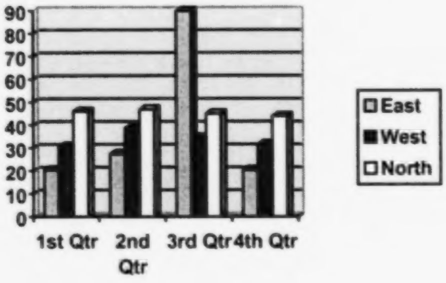
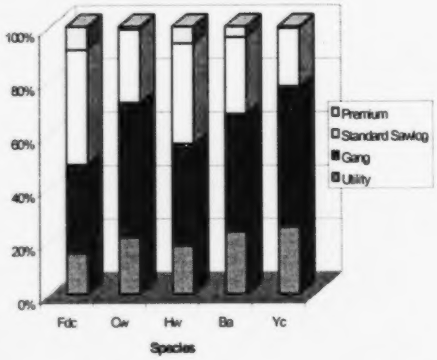


Figure 1.3.21 ***Projected product grade breakdown by species***



For comparison, a similar illustration of current species and grade profile was completed over a five year period (1993 – 1997). Figure 1.3.22 shows current species distribution and Figure 1.3.21 illustrates current grade distribution. Note that grade breakdown in Figure 1.3.23 is based on current industrial log grade specifications.

Figure 1.3.22 – Current species distribution

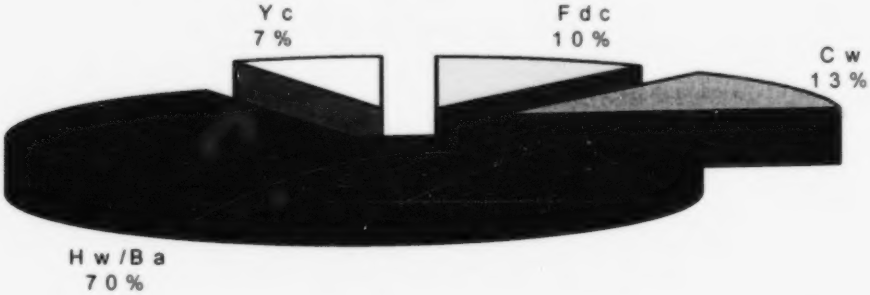
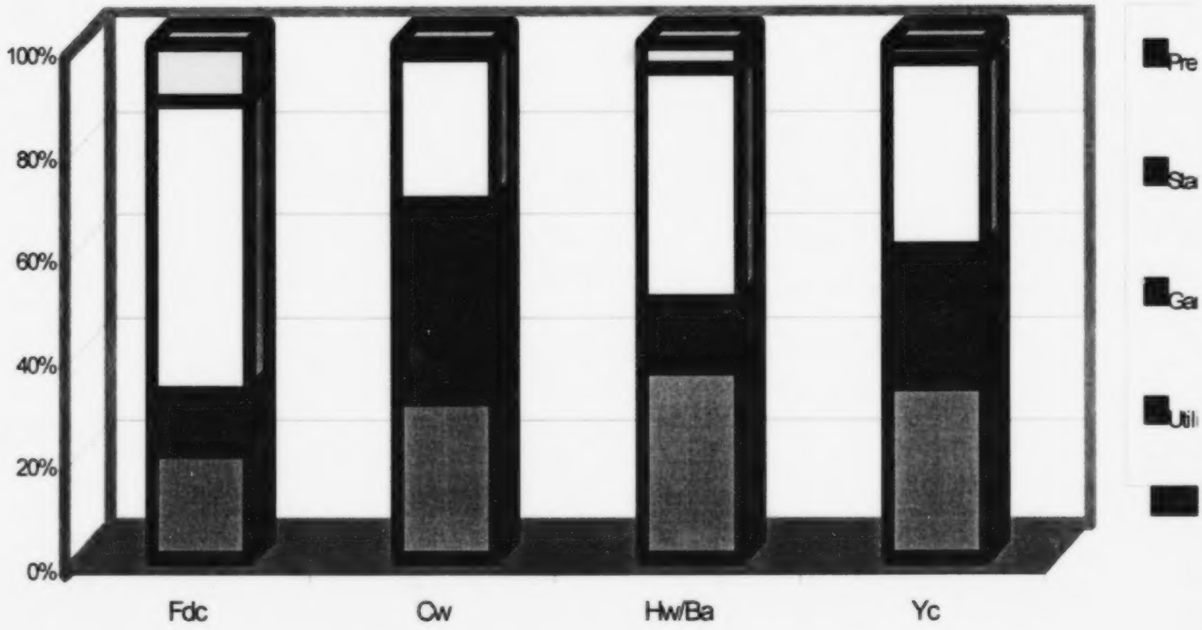


Figure 1.3.23 Current product grade distribution



This comparison of future and current species and product grade distributions indicates three major points:

1. Future managed stands will bring about a shift in species dominance from hemlock and balsam to Douglas-fir. Yellow cedar and western red cedar proportions will not change significantly, although management activities will focus on promoting these species where appropriate.
2. While overall piece sizes are smaller, the overall log quality distribution improves as the proportion of utility grade in future managed stands is lower. This is due to the nature of thrifty managed stands to be relatively low in disease and physical defects. Proportion of premium grade logs by species is forecast to be maintained at historical levels (approximately 5%).
3. Projected managed stands will result in a well diversified portfolio of species and grades allowing maximum flexibility in future wood products manufacturing.

This product strategy provides a foundation for the silviculture regimes outlined in the silviculture standards and procedures in Management Plan 8. Minimum harvest ages determined based on product piece size and minimum volume objectives are available at a stand level for operational planning and linked at a forest level for strategic planning. Accordingly, our silviculture strategies for future managed stands target species selection and stocking levels by site series according to both ecological suitability and future product objectives.

1.3.2.1.6 Incremental Silviculture Strategy

Working Targets

Working Target 1 (Quantity)
To sustain an annual harvest level as high as the current AAC of 1,068,000m^3 in the short term, increase to 1,086,100 m^3 in the mid term and finally increasing to a long term harvest of 1,182,500. This will require a combination of silviculture treatments which includes aggressive basic reforestation, increased investment in tree improvement and fertilization and harvest ages based on product targets. *Note: Harvest levels suggested here are based on potential opportunities identified in sensitivity analysis for the TFL Management Plan and are currently not approved by the Chief Forester.*

Working Target 2 (Quality)
To produce a product profile by species as outlined in Figure 1.3.21.

Silviculture Strategies

As per Potential Strategies by Response Time Frame, pages 59 and 64.

Product Objectives

As per Product Objectives page 65 and 66.

1.3.2.1.7 Incremental Silviculture Program

See Excel Sustainable Harvest Summary Tables in appendix II

1.3.2.1.8 References

Management Plan 8 for Tree Farm License 37 - Canadian Forest Products Ltd. 1998.

TFL 37 Annual Report of Operations, Canadian Forest Products Ltd., 1961 to 1999.

Ten –Year Growth Response of Coastal Douglas-fir on Vancouver Island to N and S Fertilization in an Optimum Nutrition Trial. G.F. Weetman, C.E. Prescott, F. L. Kohlberger, R.M. Fournier in: Canadian Journal of Forest Research - September 1997.

1.3.2.2 International Forest Products Ltd:

Supporting Documentation
The 2001/2002 RMP was prepared using TFL 45's Management Plan # 3 and a Type 1 Silviculture Strategy for the Port McNeill Forest District

Enhanced Forestry
A fairly aggressive survey program has been proposed for the 2001/2002 fiscal year. There are a number of potential problem stands (root disease, spruce weevil, very low densities) that need to be assessed. This activity has been given a priority ranking of 1. The stands that this program identifies will form the treatment areas for 2001 to 2003.

The northern part of TFL 45 has significant areas of Douglas fir plantations that have had density control. Many of the stands are now in the 40 to 50 year age bracket. Broadcast aerial fertilization is not identified in the Management Plan as a Base Case assumption but it was classified as a good investment n the Type 1 silviculture strategy. It has therefore been classified as priority 2 treatment.

Backlog Activities
A very large natural slide occurred in Glacier Bay, Knight Inlet. This slide has been assessed and it has been determined that 70 hectares are plantable.

Forest Health Enhancement
No activities are planned in 2001/2002. It is expected that treatments will be identified for this category but no work is planned until 2002/2003

Previous RMP History:

Introduction

An incremental silviculture strategy for Interfor's four Tree Farm Licences (TFLs 10, 38, 45, and 54) is part of a company vision to successfully integrate environmental, economic and social considerations while maintaining or enhancing the forest's timber producing capabilities.

The following are the fundamental management objectives for silviculture on Interfor's TFLs:

Silviculture Program:

Maintain a silviculture program that will ensure all harvested areas are reforested promptly, with appropriate species, densities and stock types, and managed to meet government and corporate requirements.

Silviculture Systems:
Examine different silviculture systems to determine and implement the most appropriate forest management activities.

Protection:
Develop and implement appropriate strategies that will protect the forest and minimise losses from fire, insects, disease and wind-throw by harvesting such areas, where appropriate, as they occur.

The objective of the incremental silviculture program for TFLs is to develop strategies that:

Maximize the contributing forest land base;

Maintain accurate inventories and predictions for growth and yield;

Develop inventories aimed at improving the management of non-timber resources;

Optimise components related to timber supply;

Gain public acceptance of TFL goals; and

Invest in forest management activities.

Product Objectives

The primary goal of an incremental silviculture program will be focused on enhancing future harvest opportunities with increased saw-log volume recovery. Forest management activities that will be considered are those that are expected to yield greater volumes of wood with better grades and higher value. Determination of product objectives contributes to this goal and provides objectives for silviculture treatment planning, budgeting and harvest scheduling.

Product objectives are intended to ensure that:

To as great an extent as possible, H and I grade saw-logs, or better, suitable for manufacture of clear, appearance merch, select and structural lumber are produced (with

50 cm ±15 cm average DBH for final harvest and 30 cm ±5 cm average DBH for commercial thinning);

A spectrum of log grades, including clear material will be produced over the long-term to provide opportunity for value added manufacturing;

Rotation ages will dovetail with requirements for other resource values such as visual quality and biological diversity;

Incremental silviculture and commercial thinning opportunities will only be considered when they achieve positive rates of return. Where FRBC or Ministry of Forests is funding incremental silviculture or commercial thinning etc., projects will be considered in light of Ministry of Forests specified discount rates and economic assumptions for calculating rates of return.

The current prevailing log production objective for TFLs is:

Late Seral Stage Forest Product Objectives

Harvest primarily late seral stage forest to produce conifer logs suitable for manufacturing of solid wood products ranging from 'specialty products' through to commodity structural lumber.

Late seral stage timber production will be the primary focus for at least the next 5 to 7 decades. Second growth stands will likely not significantly contribute to the gross harvest until beyond the year 2040

Company wide coastal log production dictates manufacturing facility upgrades and modifications to match the timber resources with customers' lumber requirements.

Second Growth Product Objectives

Species selection will be based on ecological suitability, reliability, productivity and value; and where feasible, target stocking levels, rotation ages, and silviculture treatments will be planned to achieve saw-log grade specifications with highest value.

Silviculture Practices

The recent timber supply analysis for each TFL considered options that include current management strategies including application (to varying degrees) of some of the key requirements under the *Forest Practices Code of British Columbia Act*, and enhanced forestry opportunities.

In the management plans for TFLs 10, 38, 45, 54 the general recurring theme has been that silviculture management and treatment regimes on TFLs are designed to produce conifer logs suitable for lumber manufacturing at the lowest cost. Interfor is committed to carrying out basic silviculture to support the TFL resource management objectives. Silviculture activities will be conducted in accordance with the *Forest Practices Code of British Columbia Act* (FPC Act) and associated Regulations. The company's aim is to be guided by future changes to these and other pertinent Acts, Regulations and Standards. Interfor will adjust silviculture strategies to accommodate new objectives and to incorporate new information about the science of silviculture.

As part of enhanced forestry Interfor is committed to pursuing an enhanced silviculture program. The intent is to develop silviculture strategies and treatments that will meet the objectives for enhancing the forest's timber-producing capability, including increased volume, improved quality and higher value. It has been Interfor's intent to evaluate and implement programs that are of incremental value to basic silviculture responsibilities. The program is to be developed together with Forest Renewal BC. Objectives are to:

Maintain a silviculture program that will ensure all harvested areas are reforested and managed to meet government and corporate requirements;

Utilize silviculture systems appropriate for the achievement of forest management objectives;

Protect the forest and minimise losses from fire, insects, disease, wind-throw and other biotic and mechanical factors; and

Convert hardwood stands to coniferous plantations where economically and ecologically justifiable. If hardwoods are the most ecologically suitable species for a given site then hardwood management will be employed. This fibre may be used by Interfor mills or traded for softwood logs.

As some stands will be managed for wildlife, visual or terrain stability objectives and timber production, product objectives require flexibility. The concurrent application of multiple management objectives will affect rotation periods and this will influence stem diameter and stem quality. Stands that have primary management objectives other than timber production will have varying silviculture/harvesting regimes.

Interfor's basic strategy is to establish and manage conifer stands in even-aged silviculture systems utilizing regeneration and crop tending regimes that include:

Harvesting to create stand characteristics that may range from commercially thinned to clear-cut openings;

Site preparation of site-specific areas where stocking standards are not achieved;

Planting within one year of harvesting on most areas. Natural regeneration is prescribed on a site specific basis generally on high elevation, north facing cooler aspect, low site blocks;

Brushing of site-specific areas, as early as operationally feasible, where stocking standards are not achieved or when improved crop growth performance is desirable. Brushing may occur at various times until plantation establishment has reached free growing; and

Enhanced silviculture designed to enhance resource values and yields will be carried out in conjunction with funding from Forest Renewal BC, or similar funding mechanism.

Enhanced Silviculture

As part of the establishment of Resource Management Zones, Interfor has committed to pursuing an enhanced silviculture program, with the intent to meet the objectives for enhancing the forest's timber-producing capability, including increased volume, improved quality, and higher value. Interfor will evaluate and implement programs that are of incremental value to the basic silviculture responsibilities. This program is on going through the implementation of Forest Renewal BC proposals planned for the next five years. Components of this program being considered include the following:

Prompt reforestation with larger-sized genetically improved stock, where available - to reduce time to achieve visually effective green-up, allowing for increased operability on visually sensitive areas;

Stand conversion from deciduous to coniferous stand types - to expand the contributing operable land-base;

Use of alternate harvesting methods and alternate silviculture systems - to increase operability in environmentally sensitive areas, buffers, wildlife management zones, and visually sensitive areas;

Growth and yield measurements, particularly those related to site index (SI) - to validate Commercial thinning opportunities - to increase operability on visually sensitive areas, and to optimise timber flow profile;

Pre-commercial thinning activities - to effect piece size and quality;

Spacing and thinning - to effect piece size and quality;

Fertilisation opportunities - to improve yields from managed stands; and

Pruning opportunities - to meet second growth product objectives.

Silviculture prescriptions for activities will be prepared, to meet the management objectives for the TFL. The objective of incremental silviculture is, in general, to accelerate tree growth and to improve the value of the final crop through reducing competition and increasing nutrition. The most common intensive silviculture treatments used for live-crown management are spacing, thinning, fertilisation, and pruning.

Intensive silviculture must consider site quality and the limitations imposed by poor site. All silviculture interventions must be based on economic efficiency, as the potential benefits may not always realised.

There is an optimal combination of stocking density and harvest age, for each species and site, which will produce the highest value combination of volume and quality. Product objectives will be the basis for specific prescriptions. No single prescription can serve as a general treatment. On each site the objective is to balance the costs of silviculture against increased future value, and to choose the economically optimum rotation age.

TFL Management Plans

Management Plans (MP) for all four TFLs have been submitted since June 1995. Table 1.3.22 details the specifics regarding management plan submissions.

	TFL 10	TFL 38	TFL 45	TFL 54
Management Plan	No. 7	No. 8	No. 3	No. 2
Expires	Dec 31, 2000	Dec 31, 2002	Oct 31, 2001	Dec 29, 1999

Table 1.3.22: TFL Management Plan status.

One of the primary resultants from the management plan process is the Timber Supply Analysis (TSA). The timber supply analysis forms the basis for a recommended Allowable Annual Cut (AAC) for the term of the MP. The analyses cover several options, including current management, and opportunities associated with proposed enhanced forestry activities.

In the TSA the "Current Management Strategies" option incorporates management practice that is considered to be current on the date of commencement for the preparation of the management plan. As a result, the degree to which each analysis considered some key management standards currently required under the Forest Practices Code, most significantly riparian management and biodiversity requirements, vary.

The "Enhanced Forestry" option focuses analysis on identified opportunities to affect short-term and long-term timber supply. Four basic opportunities have been identified, considered to be 'currently implementable' and applied to the licensee recommendation for harvest flow and AAC. Specifically, site index adjustments, allowance for genetically improved stock, managed stand optimum species selection, and reduced harvest ages on good sites.

Identified opportunities that are considered feasible, pending verification, form a package of consideration for developing a collective strategy for the enhanced forestry program.

A comparison of the conditions applied to the target harvest flow, and recommended AAC, are detailed in Table 1.3.23.

Table 1.3.23 Conditions applied to the target harvest flow and recommended AAC

CONDITIONS APPLIED TO THE TARGET HARVEST FLOW AND RECOMMENDED AAC	TFL 10	TFL 38	TFL 45	TFL 54
Cruise data available for processing	Y	Y	Y	Y
Standing volume estimate based on . . .	VDYP	Cruise based Average Volume Line	VDYP	VDYP
Managed stand yield curves based on . . .	WinTIPSY	WinTIPSY	TIPSY	TIPSY
Site Index adjustment	+2.6m D-fir +3.8m Cedar +6.8m H/C +5.4m H/Ba +5.4m Ba	+ 0.2m to +7.2m specific to BGC Subzone and spefcies	+6m for Cedar +3m for others	+6m for Cedar +3m for others
Allowance for genetically improved stock	Currently Implementable	Currently Implementable	Currently Implementable	Currently Implementable
Managed stand optimum species selection	Currently Implementable	Currently Implementable	Currently Implementable	Currently Implementable
Reduced harvest ages on good sites	Currently Implementable	Currently Implementable	Currently Implementable	Currently Implementable
Regeneration delay	3 yr – NSR 4 yr – planted 6 yr – natural	2 yr – NSR 2 yr – planted	2 yr – NSR 3 yr – planted 5 yr – natural	1 year
Road Allowance	4% - current 4% - future	4% - current 4% - future	3.6% - current 4% - future	2% - current 2% - future

Landscape level biodiversity	Y	Y	Y	
Forest Ecosystem Networks				Y
Stand level biodiversity	Y	Y		
Riparian management	FPC buffers	FPC buffers	Limited buffers	ESA
Marginal land base included in AAC	No	Y	Y	Y
Net land base (ha)	24 242	36 144	29 131	22 582
Approved AAC (Licensee Accessible Portion)	170 950 (48 903)	250 500 (237 382)	210 000 (199 920)	75 750 (66 759)
Long Run Sustained Yield - Base Case (Enhanced Forestry Option)	110 000 (135 300)	125 000 (172 000)	185 100 (248 100)	136 700 (174 700)

Sensitivity analysis provides a measure of the upper and lower bound of a "base case" harvest forecast that reflects the uncertainty of assumption made in the base case. The magnitude of the increase and decrease in the sensitivity variable reflects the degree of uncertainty surrounding the assumption associated with the given variable.

The sensitivity analyses highlights the factors that have significant potential impact of short-term and long-term timber supply. As each TFL is sensitive to different factors and to varying degrees, the sensitivity analysis results aid to focus proposed incremental silviculture activities on issues that can be incorporated into the next round of timber supply analysis and can be expected to have quantifiable upward pressures on the AAC.

Table 1.3.24 Significant sensitivity analysis impacts

Most significant issues with AAC sensitivity analysis	Potential AAC Impacts		
TFL 10	Short-term Decades 1-4	Mid-term Decades 5-8	Long-term LRSY
Land base ± 5%	-7% / 0%	-17% / +1%	-5% / +5%
Existing yield estimates ± 10%	-3% / 0%	-8% / +20%	0% / +4%
Regenerated yield estimates (base case vs site index adjustment)	na / 0%	na / +6%	na / +23%
Regeneration delay minus 1 year (base case 4 yrs planted, 6 yrs natural)	0%	0%	0%
Green-up ages ± 2 years	0% / 0%	0% / +6%	0% / 0%
Minimum harvest age ± 10 years	-3% / 0%	-8% / +5%	0% / +<1%
VQO - maximum disturbance	0%	0%	0%
Road allowance	0%	0%	-2%
Old growth retention ± 25% (base case Grizzly Zone-A 75% retention)	0%	0%	-2% / +2%
Stand level biodiversity: yields -2.5%	0%	0%	-3%
TFL 38	Short-term and Mid-term decades 1-8		Long-term LRSY
Land base ± 5%	-5% / +5%		-5% / +5%
Existing yield estimates + 15%	+16%		0%
Regenerated yield estimates (base case vs site index adjustment)	+ 8%		+33%
Regeneration delay ± 1 yrs (base case 2 yrs planted, 2 yrs natural)	0%		0%
Green-up ages ± 2 years	0%		0%
Minimum harvest age ± 10 years	-6% / +6%		0%
VQO - maximum disturbance	-2% / 0%		0%
Road allowance + 1%	-2%		0%
Biodiversity emphasis – intermediate	0%		0%

Genetic improvement +3-5% depending on species	+1%	+1%
Defer harvest in marginal operable area for 20 years	0%	0%
TFL 45	Short-term and Mid-term decades 1-12	Long-term LRSY
Land base ± 5%	Not tested	-5% / +5%
Existing yield estimates ± 10%	-7% / +5%	0% / 0%
Regenerated yield estimates (base case vs site index adjustment)	na / +2 to +18%	na / +5 to +29%
Regeneration delay ± 2 yrs (base case 3 yrs planted, 5 yrs natural)	-4% / +4%	-4% / +3%
Green-up ages ± 2 years	-2% / +3%	-2% / +2%
Minimum harvest age ± 10 years	-7% / +4%	0% / 0%
VQO - maximum disturbance	-10% / +8%	-8% / 8%
Road allowance	0%	-2%
TFL 54	Short-term and Mid-term decades 1-8	Long-term LRSY
Land base ± 5%	-5% / +5%	-5% / +5%
Existing yield estimates ± 10%	-18% / +10%	-6% / 0%
Regenerated yield estimates (base case minus 20% vs SI adjustment)	-5% / +9 to +14%	-16%/ +35 to +51%
Regeneration delay 6 yrs (base case = 1 yr)	-8%	-2%
Green-up ages ± 2 years	-7% / +9%	-1% / +11%
Minimum harvest age ± 10 years	-7% / +7%	-3% / +2%
VQO - maximum disturbance	-6% / +0%	-5% / 0%

Silviculture Systems

The company will examine alternate silviculture systems and different harvesting methods. Key aspects to consider in the application of alternative silviculture systems include:

Silvics;

Ecological suitability and forest health concerns;

Terrain limitations;

Exposure to high wind conditions that increase blow-down concerns;

Worker safety;

Economic feasibility;

Equipment limitations; and

Other resource values (visual, wildlife, etc.).

Interfor will apply a variety of silviculture systems that address the above concerns to meet the objectives for forest management on the TFL. Licensees currently operating in the Vancouver Forest Region are required to harvest some of their blocks using non-clearcut systems. Interfor will use alternative silviculture systems, consistent with District Manager direction or higher level plans, the FPC and the Management Plan. Silviculture system selection will make consideration for the Silvicultural Systems Guidebook.

Alternative silviculture systems will be utilised under special conditions. Typically, an alternate system is used to meet management objectives for visual quality, wildlife habitat or terrain stability. Alternative systems that will be employed include 'strip selection', 'group selection', 'seed tree', and 'shelter-wood'.

Alternate silviculture systems will be used over the next twenty years, however, the type and extent to which any given system will be used is unpredictable. Interfor expects to meet all government policy regarding the use of alternate silviculture systems.

Twenty-Year Plans are prepared to indicate a potential harvest pattern and demonstrate that the recommended harvest level is spatially plausible within the context of current planning, riparian, and biodiversity guidelines. The 20-Year Plans does not attempt to estimate the breakdown of silviculture systems that will be utilised over the twenty year planning horizon.

Silviculture Prescriptions

Silviculture prescriptions (SPs) are prepared for all areas to be harvested and are submitted to the District Manager for approval, in accordance with the *Operational Planning Regulation* of the FPC Act. The regulations specify requirements pertaining to: evaluation of forest health factors; harvesting methods; gully assessments; silviculture systems; silviculture systems in a riparian reserve zone; retention of streamside trees; soil condition; forest floor reduction and displacement; soil disturbance; excavated or bladed trails; regeneration method; silviculture treatments; and species selection.

SPs are prepared in consideration of the *Site Diagnosis, Tree Species Selection and Slash Burning Guidelines for the Vancouver Region, the Guidelines for Preparation of Silviculture Prescriptions for the Vancouver Forest Region*, and the *Silviculture Prescription Guidebook* of the FPC. The objective is to have approved SPs for the first two years of the Forest Development Plan.

Species selection will reference *A Field Guide for Site Identification and Interpretation for the Vancouver Forest Region, Land Management Handbook Number 28 1994* and *the Establishment to Free Growing Guidebook - Vancouver Forest Region*.

Site Productivity Reductions

The proportion of productive growing site, permanently converted for access and forest development, will be limited to that compatible with safety and long-term resource management objectives. Area converted to permanent access will be limited to the maximum stated and approved in the SP.

Anticipated, unavoidable losses in productivity attributed to landslides will be fully evaluated with a detailed terrain overview assessment and submitted with the FDP. The risk of landslides is recognised. Risk of landslides will be assessed for impact on resource management objectives, and for significant risk of damage to resource values. The *Operational Planning Regulations* of the FPC Act, requires that the licensee must collect and analyse data, and submit in conjunction with the FDP, assessments in consideration of site and soil conditions; terrain, terrain stability and hazards associated with instability.

If new slides are noted, they are reported to the Forest District (Field Operations Supervisor and/or Engineering Officer) as well as MELP.

Slides that have a detrimental impact upon the resource management objectives will be evaluated and where appropriate stabilised to:

Control surface erosion by re-vegetation and/or other techniques; and

Re-establish conifer crops.

Other than the reductions in site productivity required for access, management strategies will strive to maintain or enhance site productivity. The *Hazard Assessment Keys For Evaluating Site Sensitivity To Soil Degrading Processes Guidebook* will be considered in the assessment of the inherent sensitivity of a site to the following soil-degrading processes: soil compaction and puddling; soil displacement (including exposure of unfavourable subsoil and slope hydrology changes); forest floor displacement; surface soil erosion (exposed mineral soil); and mass wasting.

Site Preparation

The necessity for, and method of site preparation, is prescribed in the SP through assessment of potential slash loading, planting spot availability, species preference, regeneration method, biodiversity requirements, and fire and pest risk. The prescription is reassessed and amended if necessary upon post-logging inspection. It should be noted that site preparation treatment(s) may not be of benefit to achieve regeneration on many of the harvested area(s). Therefore, the majority of the areas will receive no treatment.

Site preparation prescriptions will make consideration for the *Site Preparation Guidebook*. Site preparation may occur on individual areas:

Greater than 0.2 ha in area, dispersed throughout the harvest block, and

On roadside patches greater than 50m^2 area.

As well as achievement of target stocking objectives, site preparation treatments may be carried out as part of integrated vegetation management strategies, or to improve soil or other site conditions for tree growth. These treatments may be considered where compatible with resource management objectives and scheduled in an approved SP.

Most site preparation will be done with machines (excavators), however, other techniques will be employed where appropriate.

Reforestation

Reforestation is accomplished as soon as it is practical following completion of harvest and any necessary site preparation treatments. In accordance with the approved SP the majority of harvested areas will be:

Planted within one year of completion of harvest to minimise regeneration delay. Natural regeneration is prescribed on a site-specific basis. Fill-in planting maybe required to achieve regeneration delay;

Planted to ensure the presence of ecologically suitable and preferred species;

Planted at densities that, along with natural regeneration, will ensure prompt achievement of target stockings standards;

Planted with appropriate sized stock types (in general larger stock types are planted where vegetation competition, climatic conditions and animal browse are problematic);

Planted with a component of genetically improved stock where available; and

Fill-planted within one year of plantation failure, if that occurs.

The *Establishment to Free Growing Guidebook - Vancouver Forest Region*, will be referenced. Exceptions to these stocking standards will be proposed, after assessing the use of alternative silviculture systems, to overcome or reduce the effect of the following:

Colluvial sites (precluding achievement of minimum stocking standards);

Sites with high water table (within 30cm of mean soil surface and restricting productive sites to mounds);

Shallow organic soils over rock or other impermeable layers (Folisols); and

Sites where lower stocking standards are deemed in accordance with wildlife management objectives.

Unique standards for these and other sites will be defined in the SP.

Colluvial sites, sites with high water tables, and sites with folisols will be harvested only if they are capable of sustainable forest management. Where regional stocking standards cannot be achieved, acceptable minimum stocking densities will be proposed similar to those present before harvesting. In some cases, longer than normal regeneration delays will be recommended.

Brushing

Deciduous and brush competition in planted and natural stands will be controlled to allow stands to reach a free-growing condition as prescribed and approved in SPs. Stands are monitored from completion of harvesting to determine the need for brushing treatment.

Interfor will brush where stocking standards cannot be achieved, due to brush competition, or if improved crop growth performance is financially desirable. In most cases, the objective will be to avoid the need to brush by promptly planting suitable stock types. If brushing is required then the methods employed will be manual and/or chemical. The brushing technique used will consider the specific site, stand, social and regulatory conditions.

All stands are monitored, from completion of harvesting, for brushing and weeding treatment. Where alder encroachment, as well as some maple coppicing, is a significant problem on richer, southerly aspect sites. These stands can be effectively weeded by manual and herbicide methods. Any consideration of herbicide use among potential brush control methods will be carefully and thoroughly weighed using the following variables.

The method of brush control, whether manual, mechanical or chemical, is chosen on a site specific basis to provide the most efficient means of achieving the brush control objectives. The following variables are considered in selecting a treatment method for each brush site:

The brush species competing, the present and potential degree of competition, terrain and site conditions;

The effectiveness of different control methods available;

Potential for re-treatments;

The health risks to workers, employees, neighbours, and others;

Risk to wildlife and fish;

Risk to soil and water;

Acceptability of methods to other resource agencies and forest users; and

The cost of effective control by various methods.

Chemical site preparation methods are considered where it is necessary to reduce existing vegetation competition or when planting into established vegetation communities. The commercial herbicides that will be considered are Vision (Glyphosate), and Release (Triclopyr). The proposed use of herbicides will be specified in the Silviculture Prescription. Use of herbicides is regulated under the Pesticide Control Act and Regulations. The Act and regulations are administered under the Pesticide Management Program of MELP. MELP regulates Pesticide Use Permits and their issuance.

Site Rehabilitation

Site rehabilitation opportunities exist for backlog Satisfactorily Restocked stands to improve stocking on sites with less than optimal spacing (i.e. old roads and landings).

The majority of good and medium, low elevation sites now growing cottonwood and alder are best-suited ecologically to those species, and conversion to slower growing, longer rotation coniferous species may only be justifiable where ecologically appropriate. Several cottonwood plantations are located near river areas. These sites are relatively unstable, subject to occasional flooding and river channel change and contain fish spawning and rearing habitat, as well as recreational and wildlife values. Nearly all Cottonwood and Alder mix stands (mature and immature, accessible area only) are alluvial, river flat sites suited to cottonwood or alder as the primary species. As these deciduous species, the majority of which are cottonwood, become merchantable, they may be managed on suitable sites.

Target sites for conversion will make consideration for the type, quantity and distribution of deciduous stands that would be expected under natural disturbance regimes.

Seed Supply

Interfor attempts to have available a five-year or greater supply of seed, except where seed orchard supply is dependable and available, necessary to meet planting stock requirements for TFLs. Genetically improved seed-orchard seed, is obtained whenever it is available. The Interfor is neither an owner nor partner in any seed orchards, and therefore purchases suitable seed from other producers.

Interfor collects, trades, and purchases seeds to ensure adequate supply.

Spacing

Stands are spaced as a part of our basic silviculture obligation as defined by regulation and committed to in the Silviculture Prescription.

The *Spacing Guidebook* is considered in developing site-specific management strategies and prescriptions to accommodate resource management objectives identified in this management plan. The guidebook is not definitive and is deemed to allow reasonable flexibility to vary and adapt juvenile spacing practices to site and stand-specific conditions and to achieve a wide range of forest management objectives.

Stand density plays an important role in the growth function of regenerated stands, and the production of merchantable saw-logs, and is monitored in second growth inventory and regenerated stand assessments. Excessive stand density, which may result in both depressed stand growth and reduced average stem diameter, is not considered to significantly reduce the Long Run Sustained Yield (LRSY). Average total stocking levels are in the range of 800 to 2,500 stems per hectare, with few stands exceeding 3,000 stems per hectare being considered consistent with the natural stand yield curves used for volume prediction in the yield analysis. Stands of densities exceeding 1,000 stems per hectare may benefit from juvenile spacing to increase the size and uniformity of average stem diameter and decrease time to harvest of these spaced stands.

Stands are also be considered for juvenile spacing where stocking control can be reasonably expected to result in a positive financial return from an earlier harvest of sawlog-sized conifers, or where stocking control is appropriate to achieve other resource management objectives. In addition, social objectives and stands that qualify for incremental funding will be considered for spacing as funding (FRBC) becomes available.

Silviculture Surveys

An appropriate regime of surveys and inspections will be maintained to support the basic silviculture program.

Sites are:

Inspected at harvest completion to identify and prescribe site preparation and planting treatments and to amend the SP, where this is required;

Inspected after site preparation to determine the need for additional treatments and to prescribe planting;

Surveyed during planting to determine quality of plantation and survival chance;

Inspected between the first and second growing seasons after planting to determine the need for additional planting;

Regeneration surveyed before regeneration delay to determine stocking levels, plantation growth rate and species composition;

Inspected at or before the anticipated onset of undesirable levels of vegetation competition;

Surveyed for Free Growing condition; and

Considered for other surveys and inspections as required to manage site conditions and to achieve resource management objectives.

Silviculture surveys are planned in consideration of the *Silviculture Surveys Guidebook*.

Free Growing

A free-growing condition will be achieved on all regenerated stands according to the FPC Act and *Silviculture Practices Regulation* and approved SP. The free growing standards are specified in the approved SP for individual growing sites and stands. Target objectives for free-growing stands will conform to *the Establishment to Free Growing Guidebook - Vancouver Forest Region*. Stocking standards for regenerated stands, established prior to the FPC or the approval of this management plan, will conform to the approved SP.

Determination of the free-growing condition will be made for each individual stand type and site using the standards and criteria detailed in the approved SP. The determination of free-growing shall include the criteria of size and proximity of crop trees to competing vegetation, and the effects the competing vegetation has on crop tree performance.

Stand Management Prescriptions

The scope and content of Stand Management Prescriptions (SMP) are described in the *Operational Planning Regulation* of the FPC Act. The regulations specify requirements pertaining to: evaluation of forest health factors, silviculture systems, species selection, soil disturbance, and silviculture treatments.

An approved SMP is required under the authority of the Forest Practices Code of British Columbia Act, prior to commencement of any silviculture treatment on free growing stands. Stand management prescriptions make consideration for the *Stand Management Prescription Guidebook*. SMPs describe actions to be carried out on a free growing site to:

Ensure that stand management activities are planned and implemented to maintain or enhance the inherent productivity of the site;

Ensure resource values including biological diversity are identified and accommodated; and

Set out a series of stand management activities to produce a stand capable of meeting the stated management objectives.

As TFL management plans include a variety of end-product or stand-use objectives, the primary stand management objective is the production of high value saw-logs, the SMP provides a stand-level action plan for achieving the target stand conditions to meet these management objectives. The SMP provides for setting stand level objectives and identifying the treatments necessary to achieve these objectives.

A SP approves all silviculture activities from pre-harvest of the original stand to free growing of the new stand. Collectively, the SP and SMP provide a stand strategy or full-rotation plan that schedules all silviculture activities required meet specific stand management objectives. The life span of an SMP is from free growing to the time when the next SP is approved. Though an SMP is in force for this period it is not a static document. The SMP may be amended at any time during its life to authorise alternative objectives and treatment(s) for that stand.

The SMP does not have the same legal requirements as the SP, it is expected to be an adaptive document. The SMP carries no obligations to fund or implement the prescription. However, if an activity is undertaken, the management objectives and the minimum treatment standards specified in the SMP must be adhered to. If there is more than one activity scheduled in an SMP and one or more of the prescribed activities have already been carried out, there is no legal obligation to carry out the remaining activities in the SMP.

If no activities are planned for the site after free growing, no SMP is required.

Pruning

Stands will be considered for pruning where stand manipulation can be reasonably expected to result in a positive financial return from a harvest of higher quality saw-log-sized conifers, or where stand manipulation is appropriate to achieve other resource management objectives (i.e. wildlife habitat). In addition, stands that qualify for incremental funding will be considered for pruning, as funding (FRBC) becomes available.

Planning and implementation of pruning activities will consider direction and standards recommended in the *Pruning Guidebook*.

Commercial Thinning

Commercial thinning is considered to satisfy various resource management objectives, including product objectives. Commercial thinning may be used in order to harvest wood from a hillside where protection of scenic values is the primary management objective. Other resource objectives that may dictate the use of commercial thinning are wildlife habitat, biodiversity emphasis, terrain stability, water quality or social values.

Forest Renewal BC

Potential FRBC project proposals to deal with various aspects of forest management including projects relating to:

Watershed
Road deactivation and rehabilitation of disturbed areas;

Restoration
Enhancement of fisheries and wildlife habitat;

Inventories
Addressing site productivity assignments;

Terrestrial Ecosystem Mapping;

Non-timber resources such as fisheries and wildlife;

Up-grading the current timber inventory;

Forestry
Experimenting with alternate silviculture systems in original forest and second growth stands;

Expanding the productive land-base including harvesting of sensitive areas and low site stands;

A variety of silviculture treatments such as spacing;

Education
Training for company staff, contract crews, local and First Nation communities.

1.3.2.3 TFL Forest Ltd:

Introduction
This document and the attached tables recommend sustainable harvest activities in the portion of TFL 47 located within the Ministry of Forests Port McNeill Forest District to support the FRBC Sustainable Harvest Strategic Objective.

TFL 47 is held by TFL Forest Ltd (TimberWest).

Areas within the TSA, within or adjacent to areas where TimberWest operates, are not included in this plan.

The Resource Management Plan (RMP) for this portion of TFL 47 which was originally prepared in 1999 was revised by TimberWest Divisional Forestry staff to produce this Plan.

Despite increasing site-specific knowledge, most backlog, enhanced and forest health treatment areas were not identified on the ground at the time this RMP was prepared. It is expected that strategic planning and field surveys being done in 2000/2001 will identify most treatment areas for 2001/2002 and a portion of the areas to be treated in subsequent years.

General biodiversity / habitat supply plans and plans for rare, endangered or regionally significant species are not expected to be completed in 2000 however this initiative remains a priority. Planning for treatments will be initiated when TimberWest determines the strategy to guide activities on the TFL.

References and Analyses

This plan is based on:

1. TimberWest Forest Limited, TFL 47 Management Plan No. 2, December 1996;
2. Timber Supply Analysis, September 1996, Appendix III to Management Plan No. 2;
3. Information Report No. 2 - TFL 47 Management Plan No. 2, Density Management: Assumptions in Timber Supply Analysis and Relationships to Future Product Opportunities;
4. Information Report No. 3 - TFL 47 Management Plan No. 2, Relationships between yield analysis assumptions, harvest strategies and stand management practices;
5. BC Ministry of Forests, TFL 47 Rationale for allowable annual cut determination, December 1996;
6. McWilliams, E.R.G. and R.E. Carter, 1998. Silviculture Investment Opportunities: A Methodology for Identifying Key Decision Variables. FRBC No. HQ96463-RE
7. Backlog and Enhanced Forestry Strategies within TFL 47. B.A. Blackwell and Associates Ltd. 1999.
8. Statement of Management Objectives, Options and Procedures. TFL No. 47. Management Plan No. 3. 1999
9. Draft Timber Supply Analysis, June 2000, Appendix III to Management Plan #3

It is important to note that the portions of TFL 47 on Hanson Island, West Cracroft Island and East Cracroft Island, are included in the area administered by the Port McNeill Forest District but are compiled and analyzed in the above documents as part of the Johnstone Straits Management Unit. Timber supply analysis was not redone to conform to Forest District boundaries for this Resource Management Plan. Area on these islands is included in the recommended activities within the Port McNeill Forest District.

Description of The Bonanza Lake Management Unit (Block 17)

The following paragraph is paraphrased from BC Ministry of Forests, TFL 47 Rationale for allowable annual cut determination, December 1996. Area and harvest volume estimates are in accordance with the 2000 Analysis.

The Bonanza Lake management unit is located on Vancouver Island in the area surrounding Bonanza Lake. It lies immediately south of Telegraph Cove and is bounded by the heights of land that surround the lake. The communities of Port McNeill, and to a lesser extent, Alert Bay, Sointula, Beaver Cove and Telegraph Cove are associated with this management unit. The unit is contained within a valley formed by glacial processes and is classified within the Coastal Western Hemlock biogeoclimatic zone. Total land base of the Bonanza Lake unit is 38,000 hectares, while 21,800 hectares is considered available for timber harvesting. Harvesting operations started in this area in the 1940s. The current AAC for the management unit is 200,000 cubic meters (effective December 1, 1996). The proposed AAC is 179,970 cubic meters.

Basic Data

Total area	38,020 ha
Net harvestable area	21,831 ha
Recommended AAC	179,970 m3

Table 1.3.25 Site Class Profile

Site index	Percent
10	8.2%
15	11.7%
20	22.2%
25	29.0%
30	20.6%
35	7.8%
40	0.3%
	100.0%

Table 1.3.26 Species Profile

Leading species	Percent
Ba	4.4%
Cw	2.4%
Dr	0.6%
Fd	11.0%
Hw	66.1%
Pl	0.0%
Ss	0.6%
Yc	14.9%
	100.0%

Table 1.3.27 Age Class Profile

Age Range	Percent
0-9	7.0%
10-19	15.4%
20-29	13.4%
30-39	8.1%
40-49	7.4%
50-59	3.2%
60-69	1.2%
70-79	1.2%
80-89	1.4%
90-99	0.7%
100-109	0.2%
110-119	0.3%
120-129	0.2%
130-139	0.1%
140-149	0.0%
250+	40.1%
	100.0%

Silviculture History

See attached table

Harvest Forecast

The 2000 harvest forecast projects a long term harvest rate of about 169,000 cubic meters.

Management Plan No. 3 has been submitted to the Ministry of Forests. Pertinent inventories and strategies will be used to develop and refine this sustainable harvest plan.

Description of the Johnstone Straits Management Unit (Blocks 1 – 12)

The following paragraph is paraphrased from BC Ministry of Forests, TFL 47 Rationale for allowable annual cut determination, December 1996. Area and harvest volume estimates are in accordance with the 2000 Analysis.

The Johnstone Straits management unit is located on the islands and peninsulas that protrude into Johnstone Straits, which separates northern Vancouver Island and the British Columbia mainland. The unit extends along the strait to include the islands and portions of the mainland coast from the north-western parts of Quadra Island in the south, to include Hanson Island in the north. This unit surrounds or is in the vicinity of Campbell River and Sayward. A significant component of harvesting operations in this management unit is camp-based. The management unit is characterized by coastline with mountainous, but not especially rugged or steep terrain. The majority lies within the Coastal Western Hemlock biogeoclimatic zone with small portions in the Mountain Hemlock zone. The total landbase of the Johnstone Strait unit is 101,847 ha of which 71,313 hectares is considered part of the timber harvesting land base. Timber harvesting in this management unit began in the early 1900s along the coastline and moved inland as technological innovations allowed. The current AAC for the management unit is 425,000 cubic meters (effective December 1, 1996). The proposed AAC is 528,326 cubic meters.

Basic Data

Total area	101,847 ha
Net harvestable area	71,313 ha
Recommended AAC	528,326 m3

(Following data is pertinent to the entire Johnstone Straits Management Unit)

Table 1.3.28 Site Class Profile

Site class	Percent
10	4.2%
15	13.1%
20	10.4%
25	28.8%
30	25.6%
35	15.4%
40	2.5%
	100.0%

Table 1.3.29 Species Profile

Lead species	Percent
Ba	0.6%
Cw	4.8%
Dr	5.3%
Fd	26.3%
Hw	59.3%
Mb	0.0%
Pl	2.0%
Ss	0.0%
Yc	1.7%
	100.0%

Table 1.3.30 Age Class Profile

Age Range	Percent
0-9	5.5%
10-19	11.1%
20-29	5.9%
30-39	8.6%
40-49	4.6%
50-59	5.2%
60-69	23.2%
70-79	13.6%
80-89	4.1%
90-99	3.4%
100-109	0.9%
110-119	0.7%
120-129	0.5%
130-139	0.3%
140-149	0.2%
250+	12.2%
	100.0%

Silviculture History

See attached table

Harvest Forecast (entire Johnstone Straits Management Unit)

The 2000 harvest forecast projects a long term harvest rate of about 528,000 cubic meters. Most of this harvest will be from second growth stands.

Management Plan No. 3 has been submitted to the Ministry of Forests. Pertinent inventories and strategies will be used to develop and refine this sustainable harvest plan.

Recommended Program

Objective: Return on investment

Optional silvicultural investments on the Bonanza Lake management unit and Blocks 1 – 3 of the Johnstone Straits management unit are directed first to generate a positive financial return.

Planned activities:

1. Fertilize Western red cedar (Cw), Yellow cedar (Yc) or Douglas fir (Fd). Preference will be given to stands spaced in the year previous to the fertilizer application. Candidate sites will be identified during 2000/01. The first year of spacing should occur in 2001/02. During years 2002 to 2006, fertilize an estimated 100 hectares per year of these stands. This plan provides for all fertilization to be applied manually, as the size of the program precludes the use of aerial applications.

2. Brushing of impeded stands. Area limited. Substantial area of F-G surveys required to locate this. Depending on results of year 2000 surveys, continue to survey extensive areas and to locate portions of stands for treatment.

3. Reforestation of backlog and industry outstanding areas. Focus on area lost to roads and trails. Area very limited. Depending on results of year 2000 surveys, continue to survey in 2001 and to treatments for 2002.

4. Additional treatments with positive financial return will be incorporated into plan when (if) identified.

Objective: Increase future stand windfirmness to allow future harvest pattern flexibility and maximize harvest opportunity.

Target areas are those to be harvested under variable retention or other silviculture systems adjacent riparian reserves, gullies, and in karst landforms.

Planned activities:

1. Spacing to increase windfirmness in areas planned for future harvest adjacent to or within these features. Plan in 2001/2002. Start work in following year. Area is estimated to be 30 ha/year.

Objective: Product (market) diversity

Planned activities:

1. Increasing proportion of large-diameter Fd, Cw and Yc at next harvest in dense stands of Western hemlock (Hw) through spacing / cleaning / reducing multiple-stemmed Yc to single stems. Treatment of only target species rather than treatment of the entire stand will be evaluated for financial feasibility. After candidate stands are identified in 2000/01, an estimated 100 hectares per year will be spaced in subsequent years starting in 2001/02.

Objective: Management of ungulate winter and spring ranges

Ungulate Winter Ranges are confirmed in the Timber Supply Analysis for Management Plan No. 3.

Planned activities:

1. Ungulate winter ranges will be assessed and stand management plans developed for them as part of the sustainable harvest strategic objective. Area limited. Plan in 2000/01 and 2001/02. This objective could be limited by the recommendations within the Vancouver Island Land Use Plan.

2. Spacing and perhaps pruning and fertilization to encourage development of desired habitat conditions. Applicable only where this will allow an increase in financially attractive harvesting opportunities. Area limited.

Objective: Comfor program.

This program garners community support for the forest industry as well as supporting / motivating future forest workers prior to commencement of advanced training.

Planned activities:

1. A mix of activities - all selected to have investment or other merit. Planned for 2000 and all subsequent years. It is anticipated that the current compliment of two crews will be increased to five in 2001/2002. It should be noted that the costs associated with this program, which are shown on the attached Enhance Forestry table as "Other" under Stand Tending, are associated with an output unit estimate of 87.5 hectares per year. This estimate is entirely arbitrary as this program is used as a training initiative.

Studies.

Two studies are proposed in the Port McNeill Forest District:

1. To document effect of early individual tree cleaning and fertilization to enhance presence of Fd, Cw and Yc in second growth harvests. $8,000 to establish (repeat in second year), $4,000 to assess (2 years after establishment) (See table 1.3.27 for details).

2. To develop a wind-throw hazard evaluation for this portion of the TFL. This planning tool will be used to assess the need for special harvest prescriptions in areas identified as having a high likelihood of wind damage. It is estimated the study will cost $10,000, and could be conducted in 2001/02 (See table 1.3.28 for details).

Working Targets

1. Increase yields in short, medium and long term in direct proportion to area fertilized, rehabilitated, and brushed. All projects to yield a positive return on investment.
2. Increase proportion of dominant Fd, Cw and Yc in merchantable second growth stands to 10% of volume in medium and long term.
3. Develop stand structures that allow greater harvest flexibility in the medium and long term to support landscape, biodiversity, identified wildlife, recreation, and water quality objectives.

Table 1.3.31 Proposal to monitor treatment responses

RESEARCH CONCERN MATRIX	
Steps	***Resource or Issue of Concern***
Step 1. Resource or Issue of Concern	Increase proportion of Fd, Yc and Cw in second growth stands
Step 2. Management Practice or Policy affecting issue (key assumptions)	Assessment of response to spacing, cleaning and/or fertilization.
Step 3. Primary ecosystem this occurs in	CWH vm1
Step 4. Key partners affected by this issue	Forest Licensees / MoF Small Business Program

Step 5. Temporal Scale of importance (how urgent is this?)	Long term effect					
Step 6. Spatial Scale (small vs wide reaching impacts)	Moderate-sized area					
Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans	Increased value expectation.					
Step 8. Strategic Objectives: (tick all that apply)	**SH** X	**EEV**	**SSFM**	**C&I**	**VA**	**WF**

Region: Vancouver **Date:** July 28, 2000	**Study (Y/N):** Y **or Research (Y/N):**
Mgmt. Unit: TFL 47 ***Dollar Amount:*** ***$8000 to establish; $12,000 total***	

Table 1.3.32 Proposal to monitor windthrow

RESEARCH CONCERN MATRIX	
Steps	***Resource or Issue of Concern***
Step 1. Resource or Issue of Concern	Improve ability to manage for blow-down at the cutblock layout level.
Step 2. Management Practice or Policy affecting issue (key assumptions)	Develop a wind-throw hazard evaluation for this portion of the TFL.

Step 3. Primary ecosystem this occurs in	CWH vm1					
Step 4. Key partners affected by this issue	Forest Licensees / MoF Small Business Program					
Step 5. Temporal Scale of importance (how urgent is this?)	Long term effect					
Step 6. Spatial Scale (small vs wide reaching impacts)	Large-sized area					
Step 7. Link to Resource Management Plans, Timber Supply Review, higher level plans	Reduced loss of timber value.					
Step 8. Strategic Objectives: (tick all that apply)	**SH** **X**	**EEV**	**SSFM**	**C&I**	**VA**	**WF**

Region: Vancouver	**Study (Y/N): Y**	***Mgmt. Unit: TFL 47***
Date: July 28, 2000	**or Research (Y/N):**	***Dollar Amount:***
		$10,000 total

1.3.2.4 Western Forest Products Ltd:

Introduction

This document is submitted in response to the Regional Manager's request for a silviculture planning document that would include an incremental silviculture strategic plan, an incremental silviculture strategy and an incremental silviculture program. The requested format has been followed. In cases where the information has already been provided in TFL Management Plans, the MP is referenced.

Basic Data Tree Farm Licence 6

Land Area

Tree Farm Licence 6 is located on northern Vancouver Island in the vicinity of Quatsino Sound. The total area is 201,516 hectares of which 82% is operable forest land.

Annual Allowable Cut and Harvest Forecast

The current AAC is 1,464,264 m3. Management Plan 8 indicates that this harvest will decline over the next five decades to a long run sustained yield of between 1,137,000 and 1,187,000 m/3 depending on management regimes.

Site Class Profile

The 17 ecosystem associations found within the TFL are grouped into five productivity classes for modelling. The Site Indices of each productivity class varies with the leading species. Productivity class 5 is defined as Low Sites and does not contribute to the Timber Harvest Landbase. The profile used within the Timber Supply Analysis for the upcoming Management Plan 9 are:

- 1 - 8,811 ha - SI between 27 and 38.
- 2/3 - 131,157 ha - SI between 24 and 31.
- 4 - 33,567 ha - SI between 19 and 25.
- 5 - 11,956 ha - SI = 0.

Age Class Profile

The forest inventory updated to January 1, 1997 provides the following forested age class profile:

- 0-40 years – 37%
- 41-80 years – 16%
- 81-200 years – 7%
- Old growth (250+) – 40%

Species Profile

- Leading species are:
- Hw/Ba 65%, Cw 24%, Yc 4%, Ss 2%, Dr 2%, Fd 1%

TFL 6 Issues

- Provincial land use decisions and forest policy changes are reducing the timber harvesting land base and placing spatial constraints on development. The forecast decline in harvest rates will accelerate unless solutions are found. This situation is more serious in Block 2 where a much smaller old growth reserve remains.

- Hemlock is the most important species in the management area. While a number of endemic or cyclical pests (e.g. blackheaded budworm) are present, only hemlock dwarf mistletoe is a serious pathogen. Management practices (clearcutting, burning, residual falling) target the removal of overstory hemlock which could become future dispersion centers. No other special practices are required.

- With the implementation of the Forest Practices Code and an increased effort to use alternate silviculture systems, there has been a significant increase in the number of within block reserves. Northern Vancouver Island experiences many significant wind events each year and has a long windthrow history. Therefore, the management of windthrow is a significant issue for TFL 6. While the visual appearance of windthrow is displeasing, it is important to determine whether windthrow has caused any biological damage to the resource values that reserves are designed to protect. It is also important to develop a better predictive model and mitigation strategies to effectively manage windthrow.

- Timber quality and quantity options are discussed at length in TFL Management Plans. The primary quality improvement technique, pruning, does not appear to be effective unless it will produce a clear sheath of wood that is a minimum of 15 cm in thickness.

- Cedar-hemlock-salal ecosystem associations are common in the Plan area. Research and operational trials show that significant site productivity improvements are possible with intensive management.

- Large areas of impeded drainage occur within some portions of TFL 6. If ditching proves effective, an opportunity will be available to dramatically increase productivity on a portion of the planning area.

Silviculture History

Silviculture summaries for Tree Farm Licence 6 are attached for reference. Western Forest Products Limited (WFP) has maintained an aggressive silviculture program over the history of this tenure.

Basic programs have evolved from a dependence on natural regeneration to an aggressive reforestation program (90% harvest area) using improved seed. On cedar-salal sites reforestation includes fertilization at time of planting. In house and cooperative genetics programs are producing significant genetic gain in hemlock and cypress and minor gains in cedar. The focus of sitka spruce improvement is moving away from volume and form characteristics to weevil resistance.

The brushing program is slowly shifting from chemical and mechanical alder control to brush (salmonberry) management using foliar sprays. The size of the backlog brushing program has not fallen in the past five years due to re-invasion of pre-1987 sites with red alder. However, costs per hectare have steadily declined reflecting lower re-treatment densities. In 1998 costs returned to historic levels with the added wage burden and uncertainty associated with New Forest Opportunities Ltd.

Intensive programs include juvenile spacing, pruning, fertilization and site improvement. Early spacing programs concentrated on stands 20 to 30 years of age where we now know little benefit was gained. This spacing "backlog" has been liquidated and new programs concentrate on young stands between 12 and 15 years of age. Juvenile spacing is now at a steady state level with stands treated as they reach a height of 4.5 to 5 meters.

Pruning programs expanded dramatically in the past few years in response to changing social objectives. A large pruning "backlog" of previously spaced stands still exists on WFP tenures. If this backlog is liquidated, the pruning program will be at a steady state level that matches the spacing program.

Early fertilization programs targeted sitka spruce stands exhibiting growth check. Since the mid-eighties the focus has shifted to large-scale fertilization of cedar-hemlock salal sites utilizing the operational results of the SCHIRP program.

Stand improvement programs are still in their infancy. A replicated research trial has been established on the Suquash Lowlands near Port McNeill to see if drainage can improve site productivity. In TFL 6 the conversion of unmanaged alder sites to conifer production or to managed alder are being investigated.

The intensive silviculture program has always been difficult to justify economically. The bureaucracy and higher costs associated with New Forest Opportunities Ltd. have made the labour intensive portions of these programs less viable from an investment point of view.

Opportunities to Increase Timber Supply

Management Plan documents present a range of scenarios that will affect future timber supply. In most cases, traditional intensive silviculture practices have little impact on future harvest rates. However, "intensive" basic practices which decrease regeneration delay, increase site occupancy, hasten free-growing and green-up or increase basic productivity of the sites have a significant effect on long term yields. Table 1.3.29 outlines, for discussion purposes, a range of silviculture programs, with associated benefits and costs.

Discussion

- To date, no plans have been produced based solely on their technical merit. All have been either administrative or social in nature with funding allocated to predetermined activities or to produce predefined social objectives. The most recent plan, the FRBC Multi-Year Plan, started as a technical exercise but quickly turned into an employment generation program.
- The definition of what is incremental or enhanced or intensive has become blurred with each new program. The traditional incremental program that started with juvenile spacing, pruning and fertilization now includes basic Ministry backlog obligations such as surveys, planting and brushing. At the same time policy has discouraged proposals that would be "incremental" to basic appraisal responsibilities even though they may have the greatest impact on future harvest rates.
- The most valuable silviculture investments are those that increase the tree growing productivity of forest sites or those that address spatial issues by shortening the regeneration/free growing/green-up delay period. The former can be achieved through increased site occupancy, genetic improvement, fertilization to achieve canopy closure and drainage to increase site productivity. The latter are achieved through aggressive reforestation and vegetation management as well as genetic improvement and fertilization.
- This RMP includes a continuation and an increase in the amount of Habitat Supply work. A great deal of investment has taken place in several watersheds under Enhanced Environmental Values (Watershed Restoration) to stabilize the watersheds. This years Sustainable Harvest Program proposes to further the value of the work done by repairing and enhancing the quality of the riparian ecosystems in several drainages.

Opportunities to Increase Timber Quality

Future species and grades are discussed at length in Management Plan documents. WFP's long term plan is to extend rotations to achieve stands with trees of 35 to 45 cm average diameter. The primary quality improvement technique, pruning, will not be effective at these target diameters unless it is able to produce a clear sheath of wood that is a minimum of 15 cm in thickness. This may require further extension of rotations, which have already been pushed passed culmination. The high cost of pruning does not appear to be justified. Higher initial densities and uniform development to control branch size and encourage natural pruning may be more effective.

TABLE 1.3.33 - Silviculture Opportunities, Potential Benefits and Costs

Activity	Basic Requirements	Intensified Opportunities	Potential Program Size
Site Preparation	Provincial Minimums	• Burning and mechanical treatments to get uniform stocking and growth (fewer voids) in 1500-2000 SPH range. Reduce OAF by 5% and increase MAI by 6%.	• 300 ha/year, 50% higher cost for added spots @ +$500/ha = $150,000/yr.
Regen. Delay	Provincial Minimums	• Reduce regen delay by 3 years. Will provide an MAI increase of 2%. • Reduce green-up by 3 years.	• 100% planting, +200 K trees @ current rates = $200,000/yr. • Spatial planning benefits.
Stocking	Provincial Minimums	• Higher stocking (1500 to 2000 SPH) to reduce voids. Target 5% reduction in Operational Adjustment Factor.(see above) • Larger planting stock will increase basal area at 15 years by 25% yielding final crop increase of 5%. • "A" seed will yield 5-20% increase in volume at rotation.	• Additional 800,000 trees/year (based on 1.6 million trees/year at current stocking). Trees and planting @ current rates = $800,000/yr • Upgrade 2.4 million trees/yr. Added stock and planting cost @ $.15/tree = $360,000. • Already used in WFP programs. Cost @ $.02/tree = $48,000.
Fertilization at Planting and pre-free growing.	Not Applicable	• At time of planting or pre-FtG to shorten green-up, reduce brushing and on cedar-salal site help achieve canopy closure.	• 960,000 trees/yr @ $.12/tree = $144,000.
Brushing	FtG Minimums	• Aggressive brushing to maintain uniform stocking in 1500 – 2000 SPH range. • Reduce time to free growing and	• Double appraisal program, 300 ha/yr @ $1,000/ha = $300,000.

		green up.	
Spacing	Not Applicable	• Stocking control will shorten rotation at the expense of final volume (-2%). Applicable in management units with age class imbalances. Target First Nation social targets.	• Can maintain a long term program of 250 ha per year. @ NFO rates = $625,000/yr. Up to 1,700 mandays of First Nation employment.
Pruning	Not Applicable	• Analysis indicates a minimum clear sheath of 15+ cm required to increase grades. Financial benefit, not present at historic or higher present costs. Target First Nation social targets. • Second growth cypress produces large basal branches, which significantly degrades quality. Young stands may benefit from early pruning.	• Large backlog of previously spaced stands. Once backlog liquidated, a long term program of 350 ha per year can be maintained @ NFO rates = $1,050,000. Up to 2,300 mandays of First Nations employment. • Program to match small planting program. Average 10 ha/yr. $5,000/yr.
Fertilization	Not Applicable	• Fertilization of cedar-salal types to stimulate canopy closure may increase site MAI by 50%.	• 1000 ha/yr, @ $600/ha = $600,000/yr
Site Improvement	Not Applicable	• Drain S6/S7 ecosystems to improve productivity by up to 100%.	• Trial program of 20 ha/yr. @ $2,000/ha = $40,000/yr

Silviculture Plans

Five year silviculture plans were provided to the Ministry of Forests with Management Plan 8 for TFL 6, Management Plan 9 for TFL 25 (now TFL 6, Block 2), to the 1997 District Investment Planning Group (DIPG) and in support of the Western Forest Products Limited's application for an FRBC multi-year plan. Each plan has had to utilize different assumptions.

Management Plans presented the program needed to meet basic silviculture obligations within regulatory timeframes and outlined intensive goals should funding be available. The DIPG plan outlined projects WFP felt were achievable in the District without funding limits. The FRBC plan detailed what programs WFP could undertake at historic prices and production rates within the funding constraints and employment targets set by FRBC.

Should FRBC funding be available, reasonable backlog and enhanced programs identified for TFL 6 are outlined in the Appendixes.

Discussion

Future harvest rates do not depend on this program. While fertilization and historic levels of juvenile spacing are incorporated into Management Plans scenarios, they do not have a significant effect on long term yield. There are reasons for this. Firstly, SCHIRP productivity increases are not yet incorporated into growth projections. Secondly, shorter rotations are balanced by lower rotation volumes. Finally, the area treated relative to the landbase is still too small to have an overall effect on harvest rates.

Under existing policies that do not recognize an "intensive" basic program, WFP's priorities are as follows:

- Complete all backlog work.
- Complete enhanced fertilization.
- Provide sufficient spacing (260 ha/yr) and pruning (180 ha/yr) to employ eighteen First Nations workers for an eight month year. Target cypress pruning where available.

Should changes to policy allow an "intensive" basic program, we would shift pruning and spacing funds to those projects listed under "intensive" basic activities.

Employment

WFP's proposed plan will have varying effects on employment both in the short term and long term depending on the program that is followed.

- The backlog program focuses on pre-appraisal obligations held by the Crown which licensees have agreed to administer. The program has short term employment benefits but no long term ones as only existing obligations are addressed.

- An "intensive" basic program has both short term and long term employment benefits. Employment is created now, and because the work is additive to base case obligations, employment is created in the future through higher rotational volumes.

- The intensive program components have either short term or long term gains depending on the activity.
- Juvenile spacing provides short term employment but little long term gain unless a significant age class imbalance exists. The benefits of a shorter rotation are balanced by lower rotational volume where age classes are balanced.
- Pruning creates short term employment but little future benefits unless the clear wood sheath exceeds 15 cm. Achieving this clear wood sheath requires extending rotations that lowers MAIs. WFP rotations are already extended past culmination age to achieve average stand diameters in the 35 to 45 cm range.
- Fertilization creates little short term employment but significant long term employment as we expect significantly higher MAIs once canopy closure is achieved on cedar-salal sites. This higher MAI will translate into shorter rotations or higher volumes at target rotations.
- Drainage creates little short term employment as it is mechanized but may create significant long term employment as we expect significantly higher MAIs on drained sites.

As noted earlier, the intensive silviculture program has always been difficult to justify economically. The bureaucracy and higher costs associated with New Forest Opportunities Ltd. has made the labour intensive portions of these programs even less viable from an investment point of view.

1.3.2.4 Weyerhauser Ltd:

Basic Data

Basic data on area, harvest levels, and age class distributions are found in Management Plan #7 for TFL 39. Block 3 is located on the islands and mainland areas near Port McNeill, and Block 4 is in the Benson River drainage. The timber harvesting landbase for the two blocks is 49,666 hectares, and the AAC is 415,000 cubic metres. The total AAC with the associated tenures is approximately 750,000 cubic metres (includes Doc Creek operation in Block 7).

Priorities and Rationales

The main priorities for allocating resources to activities are:

- Achieve a reasonable return on investment.
- Provide local jobs.
- Maintain commitments to First Nations Partnerships.
- Ensure free-growing status and rapid green-up.
- Ensure that adequate stand productivity is realized.
- Ensure timber availability.
- Provide habitat, and restore structural diversity over the landscape.

Surveys and brushing of backlog areas receive the highest priority. Surveys of backlog areas determine stocking; stocking is vital for inventory projections and for identifying required treatments and outstanding obligations. Brushing backlog areas protects previous stand establishment investments, and mitigates the negative effects of vegetative competition on stand productivity. Brushing also provides an opportunity to provide employment for First Nations Partnerships.

Planting failed backlog areas to ensure full stocking is also a high priority, although the area requiring treatment is generally small.

Fertilization is a high priority for offsetting the decline in stand vigour that often occurs in young stands that have nutrition problems as described by UBC SCHIRP research (Prescott and Weetman 1994). Application of urea and ammonium phosphate promotes rapid shading of salal by hemlock, improved nutrient cycling, and subsequent increases in stand productivity, thus accelerating green-up and shortening rotation length. Fertilization may be applied in stands that are scheduled to be harvested within ten years. Late rotation fertilization generally yields the highest return on investment of silvicultural treatments (McWilliams and Carter 1998). Treatments such as fertilization that shorten rotation age may provide an immediate benefit in available timber due to the Allowable Cut Effect.

Surveys of appraisal areas have a high priority because prescriptions, e.g. SMPs, and layout must be done to realize other high priority projects.

Riparian restoration (denoted as 'other' on Table B) is a high priority. Treatments such as girdling, variable density spacing, and cluster planting within RMZs can provide structural diversity within the landscape, promote wildlife habitat, and increase timber availability where harvesting has occurred immediately adjacent to streams.

Spacing is a high priority. It is done in stands of >5,000 stems/ha to increase the piece size at final harvest, reduce rotation length, increase stand value, provide habitat, and set up stands for commercial thinning. Spacing is an important component of formal partnerships with First Nations groups. It provides a means of training First Nations workers for entry into other forestry operations.

References

McWilliams, E.R.G. and R.E. Carter. 1998. Silviculture Investment Opportunities: A Methodology for Identifying Key Decision Variables. FRBC Contract No. HQ96463-RE.

Prescott, C.E. and G.G. Weetman. 1994. Salal, Cedar, Hemlock Integrated Research Program: a synthesis. UBC Faculty of Forestry. p. 68-71

Part 2 Sustainable Harvest Component

Please see sections 1.2 and 1.3, supplemented with Appendices I through VI

Part 3 Current Reforestation Component

Please see section 1.2, supplemented with Appendix I

Part 4 Forest Health Maintenance Component

Please see section 1.2, supplemented with Appendix I

Part 5 Enhancing Environmental Values Component

Please see Tab 6 for further detail and tables.

Part 6 Non-Status Road Rehabilitation and Deactivation Component

Please see Tab 2 for further detail and tables

Part 7 Forest Service Road Management Program Component

Please see Tab 2 for further detail and tables

Part 8 Strengthening Sustainable Forest Management Component

Please see Tab 3 further detail and tables

Part 9 Forest Resources Inventories Component

Please see Tab 4 for further detail and tables

Part 10 Recreation Site & Trail Maintenance Component

Please see Tab 5 for further detail and tables

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement. The template design allows completion in a consistent format for all management units across the province. Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Port McNeill Forest District Kingcome TSA

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Port McNeill Forest District Kingcome TSA
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1075	840	820	940	790	41.28	44375	1
Spacing	200	0	0	0	0	2050.00	410000	2
Pruning	175	20	50	20	20	2428.57	425000	3,2
Fertilizing	700	600	550	700	550	385.71	270000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	2150	1460	1420	1660	1360	534.59	1,149,375	
Planning and prescriptions							36,000	1
Total dollars							1,185,375	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	10	10	10	10	#DIV/0!	0	
Totals hectares	0	10	10	10	10	0.00	0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	1075	840	820	940	790	41.28	44,375	
Spacing	200	0	0	0	0	2,049.98	410,000	
Pruning	175	20	50	20	20	2,428.54	425,000	
Fertilizing	700	600	550	700	550	385.71	270,000	
Other stand tending activities	0	10	10	10	10	0.00	0	
Totals hectares	2150	1460	1420	1660	1360	534.59	1,149,375	
Planning and prescriptions							36,000	
Studies funding							0	
Total dollars							1,185,375	

Port McNeill Forest District's TSA (without A19240)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	700	700	700	700	700	50.00	35000	1
Spacing	100	100	100	100	100	1600.00	160000	2
Pruning	100	0	0	0	0	2000.00	200000	3
Fertilizing	500	500	500	500	500	300.00	150000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	1400	1300	1300	1300	1300	389.29	545,000	
Planning and prescriptions							21,000	1
Total dollars							566,000	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	10	10	10	10	10	3,000.00	30000	3
Totals hectares	10	10	10	10	10	2,999.40	30,000	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	700	700	700	700	700	50.00	35,000	
Spacing	100	100	100	100	100	1,599.98	160,000	
Pruning	100	0	0	0	0	1,999.98	200,000	
Fertilizing	500	500	500	500	500	300.00	150,000	
Other stand tending activities	10	10	10	10	10	2,998.80	30000	
Totals hectares	1410	1300	1300	1300	1300	407.80	575,000	
Planning and prescriptions							21,000	
Studies funding							0	
Total dollars							596,000	

12/28/2005

Western Forest Products Limited, FL A19240
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	375	140	120	240	90	25.00	9375	1
Spacing	100	20	20	20	20	2500.00	250000	2
Pruning	75	20	50	20	20	3000.00	225000	2
Fertilizing	200	100	50	200	50	600.00	120000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	750	280	240	480	180	805.83	604,375	
Planning and prescriptions							15,000	
Total dollars							619,375	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	375	140	120	240	90	25.00	9,375	
Spacing	100	20	20	20	20	2,499.98	250,000	
Pruning	75	20	50	20	20	2,999.96	225,000	
Fertilizing	200	100	50	200	50	600.00	120,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	750	280	240	480	180	805.83	604,375	
Planning and prescriptions							15,000	
Studies funding							0	
Total dollars							619,375	

Port McNeill Forest District Kingcome TSA
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	2150	1515	1500	1500	1500	21.80	46875	1
Site preparation	65	50	100	0	0	999.98	65000	1
Planting	115	195	100	0	0	2,732.58	314250	1
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	2330	1760	1700	1500	1500	182.89	426,125	
Seed purchase	42000	0	0	0	0	0.36	15,000	
Prescriptions and planning dollars							5,000	
Total backlog reforestation							446,125	
Impeded areas								
Surveys	950	750	675	675	675	46.05	43750	1
Brushing	800	600	550	550	550	950.00	760000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1750	1350	1225	1225	1225	459.29	803,750	
Prescriptions and planning dollars							28,000	
Total impeded areas							831,750	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	3100	2265	2175	2175	2175	29.23	90625	
Site preparation	65	50	100	0	0	999.92	65000	
Planting	115	195	100	0	0	2,732.44	314250	
Brushing	800	600	550	550	550	950.00	760000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	4080	3110	2925	2725	2725	301.44	1229875	
Seed purchase	42000	0	0	0	0	0.36	15000	
Prescriptions and planning							33,000	
Recommended studies							32,000	1
Total backlog program							1,309,875	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Table 2.1.1: Port McNeill Forest Districts TSA (without A19240)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	2125	1500	1500	1500	1500	21.76	46250	1
Site preparation	65	50	100	0	0	1,000.00	65000	1
Planting	115	195	100	0	0	2,732.61	314250	1
Brushing	0	0	0	0	0	#DIV/0!	0	
Totals hectares	2305	1745	1700	1500	1500	184.60	425,500	
Seed purchase	42000	0	0	0	0	0.36	15,000	1
Prescriptions and planning dollars							5,000	
Total backlog reforestation							445,500	
Impeded areas								
Surveys	800	600	600	600	600	50.00	40000	1
Brushing	700	500	500	500	500	1,000.00	700000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1500	1100	1100	1100	1100	493.33	740,000	
Prescriptions and planning dollars							24,000	
Total impeded areas							764,000	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	2925	2100	2100	2100	2100	29.49	86250	
Site preparation	65	50	100	0	0	999.97	65000	
Planting	115	195	100	0	0	2,732.54	314250	
Brushing	700	500	500	500	500	1,000.00	700000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	3805	2845	2800	2600	2600	306.31	1165500	
Seed purchase	42000	0	0	0	0	0.36	15000	
Prescriptions and planning							29,000	
Recommended studies							32,000	1
Total backlog program							1,241,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Western Forest Products Limited, FL A19240
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	25	15	0	0	0	25.00	625	1
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	25	15	0	0	0	25.00	625	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							625	
Impeded areas								
Surveys	150	150	75	75	75	25.00	3750	1
Brushing	100	100	50	50	50	600.00	60000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	250	250	125	125	125	255.00	63,750	
Prescriptions and planning dollars							4,000	1
Total impeded areas							67,750	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	175	165	75	75	75	25.00	4375	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	100	100	50	50	50	599.99	60000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	275	265	125	125	125	234.08	64375	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							4,000	
Recommended studies							0	
Total backlog program							68,375	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Port McNeill Forest District Kingcome TSA
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002	115		
Backlog area planted from backlog table			
Enter area of all other sites planted with improved trees	115		
Total area affected by tree improvement			
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			1,075
Total EFP surveys from the EFP table			3,100
Total backlog surveys from the backlog table.			1,378
33% of all silviculture surveys			
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			1,378
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			150
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			525

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 0

Port McNeill Forest District Kingcome TSA
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	115	0	1,378	65	115	800	200	175	700	3,548	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	5,756	0	22,388	0	14,203	13,000	0	0	21,000		76,348
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			150								150
1.5	Est. area that will be declared as free growing (ha)			525								525
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	12	0	138	62	230	2,088	792	795	126	355	
3.3	Estimated total full time equivalent positions (FTE)	0	0	1	0	1	12	4	4	1	2	26
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Port McNeill Forest District Kingcome TSA
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	2,150	1,460	1,420	1,660	1,360	535	1,149,375
Planning, prescriptions and seedlings							36,000
Backlog Program Field Activities	4,080	0	0	0	0	301	1,229,875
Planning, prescriptions and seedlings							80,000
Totals	6,230	1,460	1,420	1,660	1,360		2,495,250

Performance Measures

Potential total merchentable volume increment in 65 years	76,348 m^3
Estimated ha that will be reclassified as stocked	150 ha
Estimated ha that will be declared as free growing	525 ha
Estimated total full time equivalent positions generated	26 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** TFL 37 - Canadian Forest Products Ltd.

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
   Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
   The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

TFL 37 - Canadian Forest Products Ltd.
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities

Stand Tending

Activities	Treatment Area Goals (ha)					Plan 2001/02			
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority	
Surveys	60	60	60	60	60	133.33	8000	1	PSTs, SMPs, layout etc.
Spacing	10	10	10	10	10	1800.00	18000	2	Community Forestry
Pruning	60	60	60	60	60	1800.00	108000	2	Community Forestry and First Nations
Fertilizing	3100	3000	2000	2000	2000	233.16	722791	1	
Other	0	0	0	0	0	0.00	0		
Totals hectares	3230	3130	2130	2130	2130	265.26	856,791		
Planning and prescriptions							0		
Total dollars							856,791		0

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0
Pruning	0	0	0	0	0	0.00	0
Other treatments	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0
Non-riparian treatments	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0

Domestic Range

Treatments	0	0	0	0	0	0.00	0

Enhanced Forestry Activities - Management Unit Total

Surveys	60	60	60	60	60	133.33	8,000
Spacing	10	10	10	10	10	1,799.82	18,000
Pruning	60	60	60	60	60	1,799.97	108,000
Fertilizing	3100	3,000	2,000	2,000	2,000	233.16	722,791
Other stand tending activities	0	0	0	0	0	0.00	0
Totals hectares	3230	3130	2130	2130	2130	265.26	856,791
Planning and prescriptions							0
Studies funding							0
Total dollars							856,791

TFL 37 - Canadian Forest Products Ltd.
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02			
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority	
Surveys	0	0	0	0	0	#DIV/0!	0		
Site preparation	0	0	0	0	0	0.00	0		
Planting	0	0	0	0	0	0.00	0		
Brushing	0	0	0	0	0	0.00	0		
Max. density spacing	0	0	0	0	0	0.00	0		
Totals hectares	0	0	0	0	0	0.00	0		
Seed purchase	0	0	0	0	0	0.00	0		
Total legal obligations							0		
Backlog Reforestation									
Surveys	0	0	0	0	0	#DIV/0!	0		
Site preparation	0	0	0	0	0	0.00	0		
Planting	0	0	0	0	0	0.00	0		
Brushing	0	0	0	0	0	0.00	0		
Totals hectares	0	0	0	0	0	0.00	0		
Seed purchase	0	0	0	0	0	0.00	0		
Prescriptions and planning dollars							0		
Total backlog reforestation							0		
Impeded areas									
Surveys	500	300	300	300	300	22.00	11000	2	Free Growing surveys on pre Oct 1, 87 blocks.
Brushing	10	0	0	0	0	600.00	6000	1	Brushing treatments that are identified in FG surveys
Density spacing	0	0	0	0	0	0.00	0		
Totals hectares	510	300	300	300	300	33.33	17,000		
Prescriptions and planning dollars							0		
Total impeded areas							17,000		
Site Restoration									
Fill planting	0	0	0	0	0	0.00	0		
Rehabilitation	0	0	0	0	0	0.00	0		
Reforestation	0	0	0	0	0	0.00	0		
Totals hectares	0	0	0	0	0	0.00	0		
Seed purchase	0	0	0	0	0	0.00	0		
Prescriptions and planning dollars							0		
Total site restoration							0		
Backlog Program Activities - Management Unit Total									
Surveys	500	300	300	300	300	22.00	11000		
Site preparation	0	0	0	0	0	0.00	0		
Planting	0	0	0	0	0	0.00	0		
Brushing	10	0	0	0	0	599.88	6000		
Density spacing	0	0	0	0	0	0.00	0		
Totals hectares	510	300	300	300	300	33.33	17000		
Seed purchase	0	0	0	0	0	0.00	0		
Prescriptions and planning							0		
Recommended studies							0		
Total backlog program							17,000		

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 37 - Canadian Forest Products Ltd.
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on TFL 37 Management Plan 8

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.
Potential volume/ha gain (m3/ha/yr) provincial factors:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
0.77	0	0.25	0	1.9	0.25	0	0	0.46	

Years the factor will affect:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
65	65	65	65	65	65	65	65	65	

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.
Provincial factors for estimated value gain at harvest

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
						7	20	2	

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.
Est. short term employment rate (person days/ha) provincial factors:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.26	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

		Area	
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees	1,286		
Total area affected by tree improvement	1,286		
B Nursery production of seedlings			
Enter sowing requests from SPAR		1,500,000	
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			60
Total backlog surveys from the backlog table.			500
33% of all silviculture surveys			185
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			1,153
Estimate area of free growing surveys			1,220
Estimate area of pre-stand tending surveys			60
Estimate of total surveys that will affect timber supply		(A)	2,433
Surveyed area that will affect timber supply			
Replace with (A) if a more exact estimate is calculated			2,433
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)			
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)			
Estimate area that will be classified as free growing after a survey in 2001/2002			1,220

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. ☐

TFL 37 - Canadian Forest Products Ltd.
Performance Measures Based on Activities Planned for 2001/2002
Based on TFL 37 Management Plan 8

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	1,286	1,286	2,433	0	0	10	10	60	3,100	8,185	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	64,365	0	39,536	0	0	163	0	0	93,000		197,064
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			1,220								1,220
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.26	0.1	
3.2	Estimated total employment (person days/year)	129	437	243	0	0	26	40	272	806	819	
3.3	Estimated total full time equivalent positions (FTE)	1	2	1	0	0	0	0	2	4	5	15
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

TFL 37 - Canadian Forest Products Ltd.
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	3,230	3,130	2,130	2,130	2,130	265	856,791
Planning, prescriptions and seedlings							0
Backlog Program Field Activities	510	300	300	300	300	33	17,000
Planning, prescriptions and seedlings							0
Totals	3,740	3,430	2,430	2,430	2,430		873,791

Performance Measures

Potential total merchentable volume increment in 65 years	197,064 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	1,220 ha
Estimated total full time equivalent positions generated	15 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

2001 - 2002 Regime Table
TFL 37 - Canadian Forest Products Ltd

Rank	Regimes	Opportunity (ha/yr)	Timber Supply Effects			Wood Quality	Habitat	Direct Silv Jobs (days/ha)	Direct Cost ($/ha)
			short	medium	long				
	Fertilization								
1	Fdc leading	1500	0	+	+	+	+	0.26 (CFP 2000 actual)	230.00
2	SCHIRP salal release projects	1500	+	+	+	+	+	0.26 (CFP 2000 actual)	350.00
	Juvenile Spacing								
3	Community Forestry Program	10	0	0	+	+		3.96 (MoF)	1850.00
	Pruning								
4	First lift pruning (completed under Community Forestry and First Nations initiatives)	60	0	0	0	+	+	4.54 (MoF)	1500.00

Instructions

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http://www.for.gov.bc.ca/cpp/rmpguidelines/

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For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** TFL 45 P. McNeill

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

12/28/2005

TFL 45 P. McNeill
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	600	600	600	600	600	75.00	45000	1
Spacing	0	50	0	50	0	0.00	0	1
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	500	500	500	500	500	300.00	150000	2
Other	0	0	0	0	0	0.00	0	
Totals hectares	1100	1150	1100	1150	1100	177.27	195,000	
Planning and prescriptions							15,000	
Total dollars							210,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	50	50	50	50	0.00		1
Totals hectares	0	50	50	50	50	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	600	600	600	600	600	75.00	45,000	
Spacing	0	50	0	50	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	500	500	500	500	500	300.00	150,000	
Other stand tending activities	0	50	50	50	50	0.00	0	
Totals hectares	1100	1150	1100	1150	1100	177.27	195,000	
Planning and prescriptions							15,000	
Studies funding							0	
Total dollars							210,000	

12/28/2005

TFL 45 P. McNeill
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	70	0	70	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	70	0	0	0	0	1,400.00	98000	1
Brushing	0	0	70	0	70	#DIV/0!	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	70	70	70	70	70	1,399.96	98,000	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							98,000	
Backlog Reforestation								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	75	0	0	0	0.00	0	1
Brushing	75	0	50	0	0	1,500.00	112500	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	75	75	50	0	0	1,499.96	112,500	
Prescriptions and planning dollars							10,000	1
Total impeded areas							122,500	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	145	0	70	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	70	0	0	0	0	1,399.94	98000	
Brushing	75	0	120	0	70	1,499.98	112500	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	145	145	120	70	70	1,451.61	210500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							10,000	
Recommended studies							0	
Total backlog program							220,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 45 P. McNeill
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on Type 1 silviculture strategy

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)

Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment

Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	6.0	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.05	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area: Tree Improvement	Area: Nursery Seedling Production	Area: Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	70		
Enter area of all other sites planted with improved trees	0		
Total area affected by tree improvement	70		
B Nursery production of seedlings			
Enter sowing requests from SPAR		0	
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			600
Total backlog surveys from the backlog table.			0
33% of all silviculture surveys			198
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			300
Estimate of total surveys that will affect timber supply			(A) 300
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			300
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			0
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			100

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

TFL 45 P. McNeill
Performance Measures Based on Activities Planned for 2001/2002
Based on Type 1 silviculture strategy

	Performance Measure	Tree Improve-ment	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	70	0	300	0	70	75	0	0	500	1,015	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	6.0	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	3,504	0	4,875	0	27,301	1,219	0	0	15,000		51,899
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			100								100
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.05	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	7	0	15	0	140	196	0	0	90	102	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	1	1	0	0	1	1	3
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

TFL 45 P. McNeill
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	1,100	1,150	1,100	1,150	1,100	177	195,000
Planning, prescriptions and seedlings							15,000
Backlog Program Field Activities	145	0	0	0	0	1,452	210,500
Planning, prescriptions and seedlings							10,000
Totals	1,245	1,150	1,100	1,150	1,100		430,500

Performance Measures

Potential total merchentable volume increment in 65 years	51,899 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	100 ha
Estimated total full time equivalent positions generated	3 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

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4) Summary Table for Management Unit
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12/28/2005

TFL 47 - Portion in Port McNeill FD
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	120	120	120	120	120	33.33	4000	1
Spacing	100	130	130	130	130	1800.00	180000	2
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	50	100	100	100	100	300.00	15000	1
Other	88	88	88	88	88	2000.00	175,000	3
Totals hectares	358	438	438	438	438	1046.15	374,000	
Planning and prescriptions							40,000	1
Total dollars							414,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	20	0	0	0	0	1,800.00	36000	2
Totals hectares	20	0	0	0	0	1,799.91	36,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	120	120	120	120	120	33.33	4,000	
Spacing	100	130	130	130	130	1,799.98	180,000	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	50	100	100	100	100	300.00	15,000	
Other stand tending activities	108	88	88	88	88	1,962.74	211000	
Totals hectares	378	350	350	350	350	1,086.08	410,000	
Planning and prescriptions							40,000	
Studies funding							18000	1
Total dollars							468,000	

12/28/2005

TFL 47 - Portion in Port McNeill FD
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	100	100	0	0	0	30.00	3000	2
Site preparation	5	5	0	0	0	800.00	4000	2
Planting	5	5	0	0	0	1,200.00	6000	2
Brushing	0	5	5	0	0	0.00	0	2
Totals hectares	110	115	5	0	0	118.18	13,000	
Seed purchase	5000	5000	0	0	0	0.60	3,000	2
Prescriptions and planning dollars							1,500	2
Total backlog reforestation							17,500	
Impeded areas								
Surveys	900	100	50	0	0	26.67	24000	1
Brushing	10	10	10	10	10	1,500.00	15000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	910	110	60	10	10	42.86	39,000	
Prescriptions and planning dollars							1,500	1
Total impeded areas							40,500	
Site Restoration								
Fill planting	0	0	0	0	0	#DIV/0!	0	
Rehabilitation	0	0	0	0	0	#DIV/0!	0	
Reforestation	0	0	0	0	0	#DIV/0!	0	
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Seed purchase	0	0	0	0	0	#DIV/0!	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	1000	200	50	0	0	27.00	27000	
Site preparation	5	5	0	0	0	799.84	4000	
Planting	5	5	0	0	0	1,199.76	6000	
Brushing	10	15	15	10	10	1,499.70	15000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1020	225	65	10	10	50.98	52000	
Seed purchase	5000	5000	0	0	0	0.60	3000	
Prescriptions and planning							3,000	
Recommended studies							0	
Total backlog program							58,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

TFL 47 - Portion in Port McNeill FD
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare

	Tree Improve-ment	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improve-ment	**Nursery Seedling Production**	**Silviculture Surveys**
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	5		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	5		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			120
Total backlog surveys from the backlog table			1,000
33% of all silviculture surveys			370
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply (A)			0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			370

Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002: 0

Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)
Estimate area that will be classified as free growing after a survey in 2001/2002: 0

Habitat Supply
MELP staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity: 20

TFL 47 - Portion in Port McNeill FD
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improve-ment	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	5	0	370	5	5	10	100	0	50	652	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	250	0	6,006	0	618	163	0	0	1,500		8,536
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	1	0	37	5	10	26	396	0	9	65	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	2	0	0	0	3
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											20
5.3	Est. area with secondary value provided to biodiversity (ha)											20

TFL 47 - Portion in Port McNeill FD
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	378	350	350	350	350	1,086	410,000
Planning, prescriptions and seedlings							58,000
Backlog Program Field Activities	1,020	0	0	0	0	51	52,000
Planning, prescriptions and seedlings							6,000
Totals	1,398	350	350	350	350		526,000

Performance Measures

Potential total merchentable volume increment in 65 years	8,536 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	3 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	20 ha
Estimated area with secondary value provided to biodiversity	20 ha

Instructions

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Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Western Forest Products Limited - TFL 6

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Western Forest Products Limited - TFL 6
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1500	1900	1400	1800	1400	25.00	37500	1
Spacing	250	250	250	250	250	2500.00	625000	2
Pruning	450	450	350	350	350	3000.00	1350000	2
Fertilizing	800	1200	800	1200	800	600.00	480000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	3000	3800	2800	3600	2800	830.83	2,492,500	
Planning and prescriptions							60,000	1
Total dollars							2,552,500	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	30	35	35	35	35	2,500.00	75000	1
Non-riparian treatments	20					2,500.00	50000	1
Totals hectares	50	35	35	35	35	2,500.00	125,000	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	1500	1900	1400	1800	1400	25.00	37,500	
Spacing	250	250	250	250	250	2,499.99	625,000	
Pruning	450	450	350	350	350	2,999.99	1,350,000	
Fertilizing	800	1,200	800	1,200	800	600.00	480,000	
Other stand tending activities	50	35	35	35	35	2,499.85	125000	
Totals hectares	3050	3800	2800	3600	2800	858.20	2,617,500	
Planning and prescriptions							60,000	
Studies funding							200000	1
Total dollars							2,877,500	

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Western Forest Products Limited - TFL 6
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	500	400	300	300	200	25.00	12500	1
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	500	400	300	300	200	25.00	12,500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars								
Total backlog reforestation							12,500	
Impeded areas								
Surveys	1100	800	600	400	300	25.00	27500	1
Brushing	550	400	300	200	150	600.00	330000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1650	1200	900	600	450	216.67	357,500	
Prescriptions and planning dollars							22,000	1
Total impeded areas							379,500	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	5	5	5	5	5	1,500.00	37,500	1
Reforestation	10	10	10	10	10	600.00	30,000	1
Totals hectares	15	15	15	15	15	4,499.70	67,500	
Seed purchase	4,000	4000	4000	4000	4000	0.02	80	
Prescriptions and planning dollars							1,000	1
Total site restoration							68,580	
Backlog Program Activities - Management Unit Total								
Surveys	1600	1200	900	700	500	25.00	40000	
Site preparation	5	5	5	5	5	7,497.00	37500	
Planting	10	10	10	10	10	2,999.10	30000	
Brushing	550	400	300	200	150	600.00	330000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	2165	1615	1215	915	665	202.08	437500	
Seed purchase	4000	4000	4000	4000	4000	0.02	80	
Prescriptions and planning							23,000	
Recommended studies							0	
Total backlog program							460,580	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Western Forest Products Limited - TFL 6
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

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FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
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Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
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Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	2.00	
Years the factor will affect:	80	80	80	80	80	65	65	65	70	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	1	6.67	6.67	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area: Tree Improvement	Area: Nursery Seedling Production	Area: Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	10		
Enter area of all other sites planted with improved trees	800		
Total area affected by tree improvement	810		
B Nursery production of seedlings			
Enter sowing requests from SPAR		1,500,000	
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity. These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			1,500
Total backlog surveys from the backlog table.			1,600
33% of all silviculture surveys			1,023
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			1,600
Estimate area of free growing surveys			1,100
Estimate area of pre-stand tending surveys			1,000
Estimate of total surveys that will affect timber supply (A)			3,700
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			3,700
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			20
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			250

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 50

Western Forest Products Limited - TFL 6
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	810	1,500,000	3,700	5	10	550	250	450	800	1,506,625	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	2.00		
1.2	Years the factor will apply	80	80	80	80	80	65	65	65	70		
1.3	Pot. total merch. volume increment in 65 years (m3)	49,896	0	74,000	0	1,520	8,938	0	0	112,000		246,354
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			20								20
1.5	Est. area that will be declared as free growing (ha)			250								250
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	1	6.67	6.67	0.18	0.1	
3.2	Estimated total employment (person days/year)	81	510,000	370	5	20	550	1,668	3,002	144	150,663	
3.3	Estimated total full time equivalent positions (FTE)	0	2,833	2	0	0	3	9	17	1	837	3,703
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											50
5.3	Est. area with secondary value provided to biodiversity (ha)											50

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Western Forest Products Limited - TFL 6
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	3,050	3,800	2,800	3,600	2,800	858	2,617,500
Planning, prescriptions and seedlings							260,000
Backlog Program Field Activities	2,165	0	0	0	0	202	437,500
Planning, prescriptions and seedlings							23,080
Totals	5,215	3,800	2,800	3,600	2,800		3,338,080

Performance Measures

Potential total merchentable volume increment in 65 years	246,354 m^3
Estimated ha that will be reclassified as stocked	20 ha
Estimated ha that will be declared as free growing	250 ha
Estimated total full time equivalent positions generated	3,703 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	50 ha
Estimated area with secondary value provided to biodiversity	50 ha

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c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

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2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
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4) Summary Table for Management Unit
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12/28/2005

TFL39 - Weyerhaeuser Company Ltd.
Enhanced Forestry Table - Summary
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	4860	4860	4810	4810	4810	34.57	168000	1
Spacing	435	435	485	485	485	1875.86	816000	2
Pruning	95	110	110	110	110	2160.53	205250	2
Fertilizing	3600	3600	3600	3600	3600	312.78	1126000	1
Other	10	10	10	10	10	7500.00	75000	
Totals hectares	9000	9015	9015	9015	9015	265.58	2,390,250	
Planning and prescriptions							4000	1
Total dollars							2,394,250	
Forest Health Enhancement								
Spacing	20	70	70	70	70	2000.00	40000	2
Pruning	0	50	50	50	50		0	
Other treatments	500	500	500	500	500	50.00	25000	2
Totals hectares	520	620	620	620	620	125.00	65,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	20	20	20	20	20	3000.00	60000	2
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	20	20	20	20	20	3000.00	60,000	
Domestic Range								
Treatments	0	0	0	0	0		0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	4860	4860	4810	4810	4810	34.57	168,000	
Spacing	455	505	555	555	555	1881.32	856,000	
Pruning	95	160	160	160	160	2160.53	205,250	
Fertilizing	3600	3600	3600	3600	3600	312.78	1,126,000	
Other stand tending activities	530	530	530	530	530	301.89	160000	
Totals hectares	9540	9655	9655	9655	9655	263.65	2,515,250	
Planning and prescriptions							4,000	
Studies funding							180000	1
Total dollars							2,699,250	

12/28/2005

TFL39 - Squamish District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	0	0	0	0	0		0	
Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Fertilizing	0	0	0	0	0		0	
Other	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Planning and prescriptions							0	
Total dollars							0	
Forest Health Enhancement								
Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0		0	
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Domestic Range								
Treatments	0	0	0	0	0		0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	0	0	0	0	0		0	
Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Fertilizing	0	0	0	0	0		0	
Other stand tending activities	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							0	

12/28/2005

TFL 39 - Sunshine Coast District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	300	300	300	300	300	40.00	12000	1
Spacing	50	50	50	50	50	2000.00	100000	2
Pruning	15	30	30	30	30	2150.00	32250	2
Fertilizing	400	400	400	400	400	290.00	116000	1
Other	0	0	0	0	0		0	
Totals hectares	765	780	780	780	780	340.20	260,250	
Planning and prescriptions							4,000	1
Total dollars							264,250	
Forest Health Enhancement								
Spacing	20	20	20	20	20	2000.00	40000	2
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	20	20	20	20	20	2000.00	40,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	10	10	10	10	10	3000.00	30000	2
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	10	10	10	10	10	3000.00	30,000	
Domestic Range								
Treatments	0	0	0	0	0		0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	300	300	300	300	300	40.00	12,000	
Spacing	70	70	70	70	70	2000.00	140,000	
Pruning	15	30	30	30	30	2150.00	32,250	
Fertilizing	400	400	400	400	400	290.00	116,000	
Other stand tending activities	10	10	10	10	10	3000.00	30,000	
Totals hectares	795	810	810	810	810	415.41	330,250	
Planning and prescriptions							4,000	
Studies funding	(Elk, Ba Wooly Aphid, Cw Browsing)						40000	1
Total dollars							374,250	

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TFL 39 - Campbell River District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	3200	3200	3200	3200	3200	30.63	98000	1
Spacing	185	185	185	185	185	1837.84	340000	1
Pruning	50	50	50	50	50	2000.00	100000	2
Fertilizing	2500	2500	2500	2500	2500	250.00	625000	1
Other	0	0	0	0	0		0	
Totals hectares	5935	5935	5935	5935	5935	195.96	1,163,000	
Planning and prescriptions							0	
Total dollars							1,163,000	

Forest Health Enhancement

Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0		0	
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Domestic Range

Treatments	0	0	0	0	0		0	

Enhanced Forestry Activities - Management Unit Total

Surveys	3200	3200	3200	3200	3200	30.63	98,000	
Spacing	185	185	185	185	185	1837.84	340,000	
Pruning	50	50	50	50	50	2000.00	100,000	
Fertilizing	2500	2500	2500	2500	2500	250.00	625,000	
Other stand tending activities	0	0	0	0	0		0	
Totals hectares	5935	5935	5935	5935	5935	195.96	1,163,000	
Planning and prescriptions							0	
Studies funding	(2 studies: forage photo-interp, fert of vaccinium & salal)						40000	1
Total dollars							1,203,000	

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TFL 39 - Port McNeill District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1000	1000	1000	1000	1000	40.00	40000	1
Spacing	80	80	80	80	80	1800.00	144000	2
Pruning	20	20	20	20	20	2400.00	48000	2
Fertilizing	600	600	600	600	600	525.00	315000	1
Other - training (Comfor)	10	10	10	10	10	7500.00	75000	1
Totals hectares	1710	1710	1710	1710	1710	363.74	622,000	
Planning and prescriptions							0	
Total dollars							622,000	

Forest Health Enhancement

Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0		0	
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Domestic Range

Treatments	0	0	0	0	0		0	

Enhanced Forestry Activities - Management Unit Total

Surveys	1000	1000	1000	1000	1000	40.00	40,000	
Spacing	80	80	80	80	80	1800.00	144,000	
Pruning	20	20	20	20	20	2400.00	48,000	
Fertilizing	600	600	600	600	600	525.00	315,000	
Other stand tending activities	10	10	10	10	10	7500.00	75,000	
Totals hectares	1710	1710	1710	1710	1710	363.74	622,000	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							622,000	

TFL 39 - Mid Coast District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	60	60	60	60	60	150.00	9000	1
Spacing	20	20	20	20	20	2600.00	52000	1
Pruning	10	10	10	10	10	2500.00	25000	2
Fertilizing	0	0	0	0	0		0	
Other	0	0	0	0	0		0	
Totals hectares	90	90	90	90	90	955.56	86,000	
Planning and prescriptions							0	
Total dollars							86,000	

Forest Health Enhancement

Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	10	10	10	10	10	3000.00	30000	2
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	10	10	10	10	10	3000.00	30,000	

Domestic Range

Treatments	0	0	0	0	0		0	

Enhanced Forestry Activities - Management Unit Total

Surveys	60	60	60	60	60	150.00	9,000	
Spacing	20	20	20	20	20	2600.00	52,000	
Pruning	10	10	10	10	10	2500.00	25,000	
Fertilizing	0	0	0	0	0		0	
Other stand tending activities	10	10	10	10	10	3000.00	30,000	
Totals hectares	100	100	100	100	100	1160.00	116,000	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							116,000	

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TFL 39 - Queen Charlotte District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	300	300	250	250	250	30.00	9000	1
Spacing	100	100	150	150	150	1800.00	180000	2
Pruning	0	0	0	0	0		0	
Fertilizing	100	100	100	100	100	700.00	70000	1
Other	0	0	0	0	0		0	
Totals hectares	500	500	500	500	500	518.00	259,000	
Planning and prescriptions							0	
Total dollars							259,000	
Forest Health Enhancement								
Spacing	0	50	50	50	50		0	
Pruning	0	50	50	50	50		0	
Other treatments	500	500	500	500	500	50.00	25000	2
Totals hectares	500	600	600	600	600	50.00	25,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0		0	
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Domestic Range								
Treatments	0	0	0	0	0		0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	300	300	250	250	250	30.00	9,000	
Spacing	100	150	200	200	200	1800.00	180,000	
Pruning	0	50	50	50	50		0	
Fertilizing	100	100	100	100	100	700.00	70,000	
Other stand tending activities	500	500	500	500	500	50.00	25,000	
Totals hectares	1000	1100	1100	1100	1100	284.00	284,000	
Planning and prescriptions							0	
Studies funding	(Black-headed Bud Worm $50 k, Var Dens Spc $50k studies)						100,000	1
Total dollars							384,000	

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TFL39 - Weyerhaeuser Company Ltd.
Backlog Program Table - Summary
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	100	100	100	50	50	25.00	2500	1
Site preparation	5	5	5	5	5	1,000.00	5000	1
Planting	20	20	20	0	0	600.00	12000	1
Brushing	30	30	30	30	30	1,000.00	30000	1
Max. density spacing	0	0	0	0	0		0	
Totals hectares	155	155	155	85	85	319.35	49,500	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							49,500	
Backlog Reforestation								
Surveys	4825	3625	1625	1375	1375	25.62	123625	1
Site preparation	0	0	0	0	0		0	
Planting	85	85	85	85	85	1,905.88	162000	2
Brushing	480	300	190	170	170	1,125.00	540000	1
Totals hectares	5390	4010	1900	1630	1630	153.18	825,625	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							25000	1
Total backlog reforestation							850,625	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	220	150	60	60	40	2,904.55	639000	1
Reforestation	60	60	40	40	20	1,133.33	68000	1
Totals hectares	280	210	100	100	60	2,525.00	707,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							707,000	
Backlog Program Activities - Management Unit Total								
Surveys	4925	3725	1725	1425	1425	25.61	126125	
Site preparation	225	155	65	65	45	2,862.22	644000	
Planting	165	165	145	125	105	1,466.67	242000	
Brushing	510	330	220	200	200	1,117.65	570000	
Density spacing	0	0	0	0	0		0	
Totals hectares	5825	4375	2155	1815	1775	271.61	1582125	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							25,000	
Recommended studies							45000	1
Total backlog program							1,652,125	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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TFL 39 - Squamish District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	0	0	0	0	0		0	
Reforestation	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							0	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 39 - Sunshine Coast District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	30	30	30	30	30	1,000.00	30000	1
Max. density spacing	0	0	0	0	0		0	
Totals hectares	30	30	30	30	30	1,000.00	30,000	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							30,000	
Backlog Reforestation								
Surveys	450	450	450	200	200	25.00	11250	1
Site preparation	0	0	0	0	0		0	
Planting	10	10	10	10	10	1,100.00	11000	1
Brushing	40	20	20	0	0	1,000.00	40000	1
Totals hectares	500	480	480	210	210	124.50	62,250	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							9,000	1
Total backlog reforestation							71,250	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	40	40	20	20	0	3,000.00	120000	1
Reforestation	40	40	20	20	0	1,100.00	44000	1
Totals hectares	80	80	40	40	0	2,050.00	164,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							164,000	
Backlog Program Activities - Management Unit Total								
Surveys	450	450	450	200	200	25.00	11250	
Site preparation	40	40	20	20	0	3,000.00	120000	
Planting	50	50	30	30	10	1,100.00	55000	
Brushing	70	50	50	30	30	1,000.00	70000	
Density spacing	0	0	0	0	0		0	
Totals hectares	610	590	550	280	240	420.08	256250	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							9,000	
Recommended studies (herbicide & manual treatment studies)							25,000	1
Total backlog program							290,250	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 39 - Campbell River District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	1175	1175	175	175	175	37.77	44375	1
Site preparation	0	0	0	0	0		0	
Planting	20	20	20	20	20	2,300.00	46000	2
Brushing	80	80	20	20	20	1,000.00	80000	1
Totals hectares	1275	1275	215	215	215	133.63	170,375	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total backlog reforestation							170,375	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	140	70	0	0	0	2,850.00	399000	1
Reforestation	0	0	0	0	0		0	
Totals hectares	140	70	0	0	0	2,850.00	399,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							399,000	
Backlog Program Activities - Management Unit Total								
Surveys	1175	1175	175	175	175	37.77	44375	
Site preparation	140	70	0	0	0	2,850.00	399000	
Planting	20	20	20	20	20	2,300.00	46000	
Brushing	80	80	20	20	20	1,000.00	80000	
Density spacing	0	0	0	0	0		0	
Totals hectares	1415	1345	215	215	215	402.39	569375	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							569,375	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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TFL 39 - Port McNeill District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	1200	0	0	0	0	40.00	48000	1
Site preparation	0	0	0	0	0		0	
Planting	5	5	5	5	5	1,000.00	5000	2
Brushing	60	50	0	0	0	1,000.00	60000	1
Totals hectares	1265	55	5	5	5	89.33	113,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total backlog reforestation							113,000	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	40	40	40	40	40	3,000.00	120000	1
Reforestation	0	0	0	0	0		0	
Totals hectares	40	40	40	40	40	3,000.00	120,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							120,000	
Backlog Program Activities - Management Unit Total								
Surveys	1200	0	0	0	0	40.00	48000	
Site preparation	40	40	40	40	40	3,000.00	120000	
Planting	5	5	5	5	5	1,000.00	5000	
Brushing	60	50	0	0	0	1,000.00	60000	
Density spacing	0	0	0	0	0		0	
Totals hectares	1305	95	45	45	45	178.54	233000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							233,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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TFL 39 - Mid Coast District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	0	0	0	0	0		0	
Reforestation	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							0	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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TFL 39 - Queen Charlotte District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	100	100	100	50	50	25.00	2500	1
Site preparation	5	5	5	5	5	1,000.00	5000	1
Planting	20	20	20	0	0	600.00	12000	1
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	125	125	125	55	55	156.00	19,500	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							19,500	
Backlog Reforestation								
Surveys	2000	2000	1000	1000	1000	10.00	20000	1
Site preparation	0	0	0	0	0		0	
Planting	50	50	50	50	50	2,000.00	100000	1
Brushing	300	150	150	150	150	1,200.00	360000	1
Totals hectares	2350	2200	1200	1200	1200	204.26	480,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							16,000	1
Total backlog reforestation							496,000	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	0	0	0	0	0		0	
Reforestation	20	20	20	20	20	1,200.00	24000	2
Totals hectares	20	20	20	20	20	1,200.00	24,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							24,000	
Backlog Program Activities - Management Unit Total								
Surveys	2100	2100	1100	1050	1050	10.71	22500	
Site preparation	5	5	5	5	5	1,000.00	5000	
Planting	90	90	90	70	70	1,511.11	136000	
Brushing	300	150	150	150	150	1,200.00	360000	
Density spacing	0	0	0	0	0		0	
Totals hectares	2495	2345	1345	1275	1275	209.82	523500	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							16,000	
Recommended studies	(Retro-tubing Study)						20,000	
Total backlog program							559,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL39 - Weyerhaeuser Company Ltd.
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.50	0	0.5	0	2.0	0.5	0	0	0.50	
Years the factor will affect:	70	70	70	70	70	70	70	70	10	
Provincial factors for estimated value gain at harvest							2	2	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	165		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	165		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			4,860
Total backlog surveys from the backlog table.			4,925
33% of all silviculture surveys			3,229
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			3,229
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			100
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			3,700

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 200

TFL39 - Weyerhaeuser Company Ltd.
Performance Measures Based on Activities Planned for 2001/2002
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	165	0	3,229	225	165	510	455	95	3,600	8,974	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.50	0	0.5	0	2.0	0.5	0	0	0.50		
1.2	Years the factor will apply	70	70	70	70	70	70	70	70	10		
1.3	Pot. total merch. volume increment in 65 years (m3)	5,775	0	113,017	0	23,100	17,850	0	0	18,000		177,742
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			100								100
1.5	Est. area that will be declared as free growing (ha)			3,700								3,700
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							2	2	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	17	0	323	214	330	1,331	1,802	431	648	897	
3.3	Estimated total full time equivalent positions (FTE)	0	0	2	1	2	7	10	2	4	5	33
4.1	**Forest Health Enhancement (ha)**											520
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											20
5.3	Est. area with secondary value provided to biodiversity (ha)											200

TFL39 - Weyerhaeuser Company Ltd.
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	9,540	9,655	9,655	9,655	9,655	264	2,515,250
Planning, prescriptions and seedlings							184,000
Backlog Program Field Activities	5,825	0	0	0	0	272	1,582,125
Planning, prescriptions and seedlings							70,000
Totals	15,365	9,655	9,655	9,655	9,655		4,351,375

Performance Measures

Potential total merchentable volume increment in 65 years	177,742 m^3
Estimated ha that will be reclassified as stocked	100 ha
Estimated ha that will be declared as free growing	3,700 ha
Estimated total full time equivalent positions generated	33 FTEs
Forest health enhancement area	520 ha
Planned area for specific wildlife forage or habitat maintenance	20 ha
Estimated area with secondary value provided to biodiversity	200 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Queen Charlotte TSA

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Queen Charlotte Islands Forest District (combined TSA and TFLs)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1925	775	725	725	725	63.12	121500	
Spacing	486	486	536	536	536	1820.58	884800	
Pruning	88	88	188	88	88	2215.91	195000	
Fertilizing	1050	100	100	100	100	654.76	687500	
Other	0	0	0	0	0	0.00	0	
Totals hectares	3549	1449	1549	1449	1449	532.21	1,888,800	
Planning and prescriptions	0	0	0	0	0		26,250	
Total dollars							1,915,050	
Forest Health Enhancement								
Spacing	0	50	50	50	50	0.00	0	
Pruning	0	50	50	50	50	0.00	0	
Other treatments	500	500	500	500	500	50.00	25000	
Totals hectares	500	600	600	600	600	50.00	25,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	40	20	20	20	20	1,999.95	80000	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	40	20	20	20	20	1,999.90	80,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	1925	775	725	725	725	63.12	121,500	
Spacing	486	536	586	586	586	1,820.57	884,800	
Pruning	88	138	238	138	138	2,215.86	195,000	
Fertilizing	1050	100	100	100	100	654.76	687,500	
Other stand tending activities	540	520	520	520	520	194.44	105000	
Totals hectares	4089	1549	1649	1549	1549	487.60	1,993,800	
Planning and prescriptions							26,250	
Studies funding							100000	
Total dollars							2,120,050	

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Queen Charlotte Islands Forest District (combined TSA and TFLs)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	807	807	807	757	757	46.90	37850	
Site preparation	5	5	5	5	5	999.60	5000	
Planting	20	20	20	0	0	599.94	12000	
Brushing	94	94	94	34	34	1,499.96	141000	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	926	926	926	796	796	211.50	195,850	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							195,850	
Backlog Reforestation								
Surveys	2000	2000	1000	1000	1000	10.00	20000	
Site preparation	0	0	0	0	0	0.00	0	
Planting	50	50	50	50	50	1,999.92	100000	
Brushing	300	150	150	150	150	1,199.99	360000	
Totals hectares	2350	2200	1200	1200	1200	204.25	480,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							16,000	
Total backlog reforestation							496,000	
Impeded areas								
Surveys	100	50	50	50	50	50.00	5000	
Brushing	30	20	20	20	20	1,999.93	60000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	130	70	70	70	70	499.98	65,000	
Prescriptions and planning dollars							3,250	
Total impeded areas							68,250	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	20	20	20	20	20	1,199.88	24000	
Totals hectares	20	20	20	20	20	1,199.64	24,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							24,000	
Backlog Program Activities - Management Unit Total								
Surveys	2907	2857	1857	1807	1807	21.62	62850	
Site preparation	5	5	5	5	5	998.80	5000	
Planting	90	90	90	70	70	1,510.98	136000	
Brushing	424	264	264	204	204	1,323.10	561000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	3426	3216	2216	2086	2086	223.25	764850	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							19,250	
Recommended studies							20,000	
Total backlog program							804,100	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Queen Charlotte TSA
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	375	375	375	375	375	50.00	18750	1
Spacing	336	336	336	336	336	1800.00	604800	1
Pruning	38	38	38	38	38	2500.00	95000	3
Fertilizing	0	0	0	0	0	0.00	0	
Other	0	0	0	0	0	0.00	0	
Totals hectares	749	749	749	749	749	959.34	718,550	
Planning and prescriptions							0	
Total dollars							718,550	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	40	20	20	20	20	2,000.00	80000	1
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	40	20	20	20	20	1,999.95	80,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	375	375	375	375	375	50.00	18,750	
Spacing	336	336	336	336	336	1,799.99	604,800	
Pruning	38	38	38	38	38	2,499.93	95,000	
Fertilizing	0	0	0	0	0	0.00	0	
Other stand tending activities	40	20	20	20	20	1,999.80	80000	
Totals hectares	789	749	749	749	749	1,012.09	798,550	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							798,550	

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Queen Charlotte TSA
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	707	707	707	707	707	50.00	35350	1
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	94	94	94	34	34	1,500.00	141000	1
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	801	801	801	741	741	220.16	176,350	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							176,350	
Backlog Reforestation								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	707	707	707	707	707	50.00	35350	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	94	94	94	34	34	1,499.97	141000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	801	801	801	741	741	220.16	176350	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							176,350	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Queen Charlotte TSA
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performence measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	**Nursery Seedling Production**	**Silviculture Surveys**
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees	450		
Total area affected by tree improvement	450		
B Nursery production of seedlings			
Enter sowing requests from SPAR		400,000	
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			375
Total backlog surveys from the backlog table.			707
33% of all silviculture surveys			357
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			375
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			0
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			475

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 50

Queen Charlotte TSA
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	450	400,000	375	0	0	94	336	38	0	401,333	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	22,523	0	6,094	0	0	1,528	0	0	0		**30,145**
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								**0**
1.5	Est. area that will be declared as free growing (ha)			475								**475**
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	45	136,000	38	0	0	245	1,331	173	0	40,133	
3.3	Estimated total full time equivalent positions (FTE)	0	756	0	0	0	1	7	1	0	223	**989**
4.1	**Forest Health Enhancement (ha)**											**0**
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											**40**
5.3	Est. area with secondary value provided to biodiversity (ha)											**50**

Queen Charlotte TSA
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	789	749	749	749	749	1,012	798,550
Planning, prescriptions and seedlings							0
Backlog Program Field Activities	801	0	0	0	0	220	176,350
Planning, prescriptions and seedlings							0
Totals	1,590	749	749	749	749		974,900

Performance Measures

Potential total merchentable volume increment in 65 years	30,145 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	475 ha
Estimated total full time equivalent positions generated	989 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	40 ha
Estimated area with secondary value provided to biodiversity	50 ha

TFL 39 - Queen Charlotte District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	300	300	250	250	250	30.00	9000	1
Spacing	100	100	150	150	150	1800.00	180000	2
Pruning	0	0	0	0	0		0	
Fertilizing	100	100	100	100	100	700.00	70000	1
Other	0	0	0	0	0		0	
Totals hectares	500	500	500	500	500	518.00	259,000	
Planning and prescriptions							0	
Total dollars							259,000	
Forest Health Enhancement								
Spacing	0	50	50	50	50		0	
Pruning	0	50	50	50	50		0	
Other treatments	500	500	500	500	500	50.00	25000	2
Totals hectares	500	600	600	600	600	50.00	25,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0		0	
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Domestic Range								
Treatments	0	0	0	0	0		0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	300	300	250	250	250	30.00	9,000	
Spacing	100	150	200	200	200	1800.00	180,000	
Pruning	0	50	50	50	50		0	
Fertilizing	100	100	100	100	100	700.00	70,000	
Other stand tending activities	500	500	500	500	500	50.00	25,000	
Totals hectares	1000	1100	1100	1100	1100	284.00	284,000	
Planning and prescriptions							0	
Studies funding	(Black-headed Bud Worm $50 k, Var Dens Spc $50k studies)						100,000	1
Total dollars							384,000	

12/28/2005

TFL 39 - Queen Charlotte District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	100	100	100	50	50	25.00	2500	1
Site preparation	5	5	5	5	5	1,000.00	5000	1
Planting	20	20	20	0	0	600.00	12000	1
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	125	125	125	55	55	156.00	19,500	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							19,500	
Backlog Reforestation								
Surveys	2000	2000	1000	1000	1000	10.00	20000	1
Site preparation	0	0	0	0	0		0	
Planting	50	50	50	50	50	2,000.00	100000	1
Brushing	300	150	150	150	150	1,200.00	360000	1
Totals hectares	2350	2200	1200	1200	1200	204.26	480,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							16,000	1
Total backlog reforestation							496,000	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	0	0	0	0	0		0	
Reforestation	20	20	20	20	20	1,200.00	24000	2
Totals hectares	20	20	20	20	20	1,200.00	24,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							24,000	
Backlog Program Activities - Management Unit Total								
Surveys	2100	2100	1100	1050	1050	10.71	22500	
Site preparation	5	5	5	5	5	1,000.00	5000	
Planting	90	90	90	70	70	1,511.11	136000	
Brushing	300	150	150	150	150	1,200.00	360000	
Density spacing	0	0	0	0	0		0	
Totals hectares	2495	2345	1345	1275	1275	209.82	523500	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							16,000	
Recommended studies	(Retro-tubing Study)						20,000	1
Total backlog program							559,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Queen Charlotte Islands Forest District (combined TSA and TFLs)
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.
Potential volume/ha gain (m3/ha/yr) provincial factors:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
0.77	0	0.25	0	1.9	0.25	0	0	0.46	

Years the factor will affect:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
65	65	65	65	65	65	65	65	65	

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.
Provincial factors for estimated value gain at harvest

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
						7	20	2	

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.
Est. short term employment rate (person days/ha) provincial factors:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	90		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	90		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			1,925
Total backlog surveys from the backlog table.			2,907
33% of all silviculture surveys			1,595
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			1,595
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)			
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)			
Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Queen Charlotte Islands Forest District (combined TSA and TFLs)
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	4,089	1,549	1,649	1,549	1,549	488	1,993,800
Planning, prescriptions and seedlings							126,250
Backlog Program Field Activities	3,426	0	0	0	0	223	764,850
Planning, prescriptions and seedlings							39,250
Totals	7,515	1,549	1,649	1,549	1,549		2,924,150

Performance Measures

Potential total merchentable volume increment in 65 years	79,923 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	24 FTEs
Forest health enhancement area	500 ha
Planned area for specific wildlife forage or habitat maintenance	40 ha
Estimated area with secondary value provided to biodiversity	0 ha

F50-4-1 RMP
August 19, 2000

Ministry of Forests
Queen Charlotte Forest District
Box 39
Queen Charlotte City, B.C.
VOT 1SO
Attention: M.Salzl
Email: Mark.Salzl@gems7.gov.bc.ca

Dear Sir,

Re: **TFL 25 RMP and Queen Charlotte District Spreadsheets**

Attached in the TFL 25 Sustainable Harvest overview document as well as the Enhanced, Backlog, Performance Measures and Management Unit Summary Tables for TFL 25 Block 6 required for the 2001/2002 Resource Management Plan. These spreadsheets outline projects that WFP would be able to undertake within the District.

If the funds available through WFP's MYA are insufficient to complete the proposed program we would first direct dollars to the backlog program and then utilize the balance on enhanced activities.

Please call if you have any questions.

Yours truly,
Western Forest Products Limited

K.J.McGourlick RPF
Mainland Islands Regional Forester

c.c. D.Mogensen
K.Hall

Naka TFL 25 - Block 6 Sewell Inlet - Queen Charlotte Forest District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02	
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Surveys	1250	100	100	100	100	75.00	93750
Spacing	50	50	50	50	50	2000.00	100000
Pruning	50	50	150	50	50	2000.00	100000
Fertilizing	950	0	0	0	0	650.00	617500
Other	0	0	0	0	0	0.00	0
Totals hectares	2300	200	300	200	200	396.20	911,250
Planning and prescriptions							26,250
Total dollars							937,500
Forest Health Enhancement							
Spacing	0	0	0	0	0	0.00	0
Pruning	0	0	0	0	0	0.00	0
Other treatments	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Habitat Supply and Biodiversity Enhancement							
Treatments	0	0	0	0	0	0.00	0
Domestic Range							
Treatments	0	0	0	0	0	0.00	0
Enhanced Forestry Activities - Management Unit Total							
Surveys	1250	100	100	100	100	75.00	93,750
Spacing	50	50	50	50	50	1,999.96	100,000
Pruning	50	50	150	50	50	1,999.96	100,000
Fertilizing	950	0	0	0	0	650.00	617,500
Other stand tending activities	0	0	0	0	0	0.00	0
Totals hectares	2300	200	300	200	200	396.19	911,250
Planning and prescriptions							26,250
Studies funding							0
Total dollars							937,500

12/28/2005

Naka TFL 25 - Block 6 Sewell Inlet - Queen Charlotte Forest District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02	
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Surveys	0	0	0	0	0	0.00	0
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Max. density spacing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Total legal obligations							0
Backlog Reforestation							
Surveys	0	0	0	0	0	0.00	0
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total backlog reforestation							0
Impeded areas							
Surveys	100	50	50	50	50	50.00	5000
Brushing	30	20	20	20	20	2,000.00	60000
Density spacing	0	0	0	0	0	0.00	0
Totals hectares	130	70	70	70	70	500.00	65,000
Prescriptions and planning dollars							3,250
Total impeded areas							68,250
Site Restoration							
Fill planting	0	0	0	0	0	0.00	0
Rehabilitation	0	0	0	0	0	0.00	0
Reforestation	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total site restoration							0
Backlog Program Activities - Management Unit Total							
Surveys	100	50	50	50	50	50.00	5000
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	30	20	20	20	20	1,999.87	60000
Density spacing	0	0	0	0	0	0.00	0
Totals hectares	130	70	70	70	70	499.95	65000
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning							3,250
Recommended studies							0
Total backlog program							68,250

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Naka TFL 25 - Block 6 Sewell Inlet - Queen Charlotte Forest District
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.
Potential volume/ha gain (m3/ha/yr) provincial factors:

0.34	0	0.25	0	1.9	0.25	0	0	0.40	

Years the factor will affect:

65	65	65	65	65	65	65	65	65	

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.
Provincial factors for estimated value gain at harvest

						5-15%	15-30%	1-5%	

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.
Est. short term employment rate (person days/ha) provincial factors:

0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			1,250
Total EFP surveys from the EFP table			100
Total backlog surveys from the backlog table			446
33% of all silviculture surveys			
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity

Naka TFL 25 - Block 6 Sewell Inlet - Queen Charlotte Forest District
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	446	0	0	30	50	50	950	1,526	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.34	0	0.25	0	1.9	0.25	0	0	0.40		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	7,239	0	0	488	0	0	24,700		32,428
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							5-15%	15-30%	1-5%		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	45	0	0	78	198	227	171	153	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	1	1	1	1	5
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat creation in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Naka TFL 25 - Block 6 Sewell Inlet - Queen Charlotte Forest District
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	2,300	200	300	200	200	396	911,250
Planning, prescriptions and seedlings							26,250
Backlog Program Field Activities	130	70	70	70	70	500	65,000
Planning, prescriptions and seedlings							3,250
Totals	2,430	270	370	270	270		1,005,750

Performance Measures

Potential total merchentable volume increment in 65 years	32,428 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	5 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat creation	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** QCI - J.S. Jones Timber Ltd.

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

QCI - J.S. Jones Timber Ltd.
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	0.00	0	
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	0	0	0	0	0	0.00	0	
Other	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Planning and prescriptions							0	
Total dollars							0	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	0	0	0	0	0	0.00	0	
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	0	0	0	0	0	0.00	0	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Planning and prescriptions							0	
Studies funding							0	1
Total dollars							0	

QCI - J.S. Jones Timber Ltd.
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	540	0	0	0	0	18.52	10000	1
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	540	0	0	0	0	18.52	10,000	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							10,000	
Backlog Reforestation								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	540	0	0	0	0	18.52	10000	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	540	0	0	0	0	18.52	10000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							10,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

QCI - J.S. Jones Timber Ltd.
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			0
Total backlog surveys from the backlog table.			540
33% of all silviculture surveys			178
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			178
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			0
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			0

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 0

QCI - J.S. Jones Timber Ltd.
Performance Measures Based on Activities Planned for 2001/2002
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	178	0	0	0	0	0	0	178	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	2,896	0	0	0	0	0	0		2,897
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	18	0	0	0	0	0	0	18	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	0	0	0	0	0
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

QCI - J.S. Jones Timber Ltd.
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	0	0	0	0	0	0	0
Planning, prescriptions and seedlings							0
Backlog Program Field Activities	540	0	0	0	0	19	10,000
Planning, prescriptions and seedlings							0
Totals	540	0	0	0	0		10,000

Performance Measures

Potential total merchentable volume increment in 65 years	2,897 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	0 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

F50-4-1 RMP
August 18, 2000

Ministry of Forests
4227 6th Avenue
Port Alberni, B.C.
V9Y 4N1
Attention: N.Nalleweg
Email: Norm.Nalleweg@gems2.gov.bc.ca

Dear Sir,

Re: **TFL 25 RMP Document and South Island District Spreadsheets**

Attached in the TFL 25 Sustainable Harvest overview document as well as the Enhanced, Backlog, Performance Measures and Management Unit Summary Tables for TFL 25 Block 1 required for the 2001/2002 Resource Management Plan. These spreadsheets outline projects that WFP would be able to undertake within the District.

The funds available through WFP's MYA are insufficient to complete the proposed program. Depending on the availability of supplementary funds, we will select a program of activities best suited to the total available.

Please call if you have any questions.

Yours truly,
Western Forest Products Limited

K.J.McGourlick RPF
Mainland Islands Regional Forester

c.c. D.Mogensen
D.Stables
K.Hall

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at
http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** South Island Forest District Roll Up (TFL and TSA Combined)

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
   Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
   The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

12/28/2005

South Island Forest District Roll Up (TFL and TSA Combined)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	8625	9875	9650	8850	8750	26.45	228125	
Spacing	465	500	550	575	600	1698.91	790000	
Pruning	400	350	275	320	357	1687.48	675000	
Fertilizing	3731	3260	3230	1980	1880	364.97	1361685	
Other	0	0	0	50	50	0.00	0	
Totals hectares	13221	13985	13705	11775	11637	231.06	3,054,810	
Planning and prescriptions							163,500	
Total dollars							3,218,310	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	200	200	200	150	150	1,079.98	216000	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	200	200	200	150	150	1,079.92	216,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	10	60	160	310	310	1,999.20	20000	
Totals hectares	10	60	160	310	310	1,998.00	20,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	8625	9875	9650	8850	8750	26.45	228,125	
Spacing	465	500	550	575	600	1,698.89	790,000	
Pruning	600	550	475	470	507	1,484.98	891,000	
Fertilizing	3731	3,260	3,230	1,980	1,880	364.97	1,361,685	
Other stand tending activities	10	60	160	360	360	1,994.61	20000	
Totals hectares	13431	14185	13905	11875	11737	245.02	3,290,810	
Planning and prescriptions							163,500	
Studies funding							102000	
Total dollars							3,556,310	

12/28/2005

Arrowsmith TSA
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1750	1750	1750	1200	1200	25.00	43750	2
Spacing	350	350	350	350	350	1600.00	560000	1
Pruning	250	250	250	250	250	1500.00	375000	3
Fertilizing	1000	1000	1000	500	500	250.00	250000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	3350	3350	3350	2300	2300	366.79	1,228,750	
Planning and prescriptions							43,750	2
Total dollars							1,272,500	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	150	150	150	100	100	1,000.00	150000	1
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	150	150	150	100	100	999.99	150,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	1750	1750	1750	1200	1200	25.00	43,750	
Spacing	350	350	350	350	350	1,600.00	560,000	
Pruning	400	400	400	350	350	1,312.50	525,000	
Fertilizing	1000	1,000	1,000	500	500	250.00	250,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	3500	3500	3500	2400	2400	393.93	1,378,750	
Planning and prescriptions							43,750	
Studies funding							0	
Total dollars							1,422,500	

12/28/2005

Naka TFL 25 - Block 1 Jordan River - South Island Forest District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02	
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Surveys	575	625	550	50	50	25.00	14375
Spacing	25	25	25	25	25	2000.00	50000
Pruning	150	100	25	25	25	2000.00	300000
Fertilizing	400	500	500	0	0	600.00	240000
Other	0	0	0	0	0	0.00	0
Totals hectares	1150	1250	1100	100	100	525.54	604,375
Planning and prescriptions							15,750
Total dollars							620,125

Note: fertilisation $'s/ha are higher than normal as some SCHIRP style applications with higher application rates (740 kg/ha) are planned.

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0
Pruning	0	0	0	0	0	0.00	0
Other treatments	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0

Habitat Supply and Biodiversity Enhancement

Treatments	0	0	0	0	0	0.00	0

Domestic Range

Treatments	0	0	0	0	0	0.00	0

Enhanced Forestry Activities - Management Unit Total

Surveys	575	625	550	50	50	25.00	14,375
Spacing	25	25	25	25	25	1,999.92	50,000
Pruning	150	100	25	25	25	1,999.99	300,000
Fertilizing	400	500	500	0	0	600.00	240,000
Other stand tending activities	0	0	0	0	0	0.00	0
Totals hectares	1150	1250	1100	100	100	525.54	604,375
Planning and prescriptions							15,750
Studies funding							30000
Total dollars							650,125

12/28/2005

TFL44 - Weyerhaeuser Company Ltd.
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	4000	6000	6250	6500	6500	27.50	110000	1
Spacing	0	0	50	75	100	0.00	0	
Pruning	0	0	0	0	35	0.00	0	
Fertilizing	1000	1000	1200	1200	1200	440.00	440000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	5000	7000	7500	7775	7835	110.00	550,000	
Planning and prescriptions							50,000	1
Total dollars							600,000	

Note: fertilisation $'s/ha are higher than normal as some SCHIRP style applications with higher application rates (740 kg/ha) are planned.

Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	50	50	50	50	50	1,320.00	66000	2
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	50	50	50	50	50	1,319.95	66,000	

Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	50	150	300	300	0.00	0	1
Totals hectares	0	50	150	300	300	0.00	0	

Domestic Range								
Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total								
Surveys	4000	6000	6250	6500	6500	27.50	110,000	
Spacing	0	0	50	75	100	0.00	0	
Pruning	50	50	50	50	85	1,319.97	66,000	
Fertilizing	1000	1,000	1,200	1,200	1,200	440.00	440,000	
Other stand tending activities	0	50	150	300	300	0.00	0	
Totals hectares	5050	7050	7550	7825	7885	121.98	616,000	
Planning and prescriptions							50,000	
Studies funding	(sp forage $25k, old growth attributes $25k, GIS aerial fert $10k)						60000	1
Total dollars							726,000	

TFL 46
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1500	500	500	500	500	25.33	38000	1
Spacing	90	75	75	75	75	2000.00	180000	2
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	1000	80	80	80	80	280.00	280000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	2590	655	655	655	655	192.28	498,000	
Planning and prescriptions							40,000	1
Total dollars							538,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	10	10	10	10	10	2,000.00	20000	2
Totals hectares	10	10	10	10	10	1,999.80	20,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	1500	500	500	500	500	25.33	38,000	
Spacing	90	75	75	75	75	1,999.98	180,000	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	1000	80	80	80	80	280.00	280,000	
Other stand tending activities	10	10	10	10	10	1,999.20	20000	
Totals hectares	2600	655	655	655	655	199.23	518,000	
Planning and prescriptions							40,000	
Studies funding							12000	1
Total dollars							570,000	

12/28/2005

Interfor TFL 54 Escalante Block
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	31	380	200	0	0	635.00	19685	2
Other	0	0	0	0	0	0.00	0	
Totals hectares	31	380	200	0	0	634.94	19,685	
Planning and prescriptions							2,000	
Total dollars							21,685	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	0	0	0	0	0	#DIV/0!	0	
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	31	380	200	0	0	635.00	19,685	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	31	380	200	0	0	634.82	19,685	
Planning and prescriptions							2,000	
Studies funding							0	
Total dollars							21,685	

12/28/2005

Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	800	1000	600	600	500	27.50	22000	1
Spacing	0	50	50	50	50	0.00	0	2
Pruning	0	0	0	45	47	0.00	0	
Fertilizing	300	300	250	200	100	440.00	132000	2
Other	0	0	0	50	50	0.00	0	
Totals hectares	1100	1350	900	945	747	140.00	154,000	
Planning and prescriptions							12,000	1
Total dollars							166,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	800	1000	600	600	500	27.50	22,000	
Spacing	0	50	50	50	50	0.00	0	
Pruning	0	0	0	45	47	0.00	0	
Fertilizing	300	300	250	200	100	440.00	132,000	
Other stand tending activities	0	0	0	50	50	0.00	0	
Totals hectares	1100	1350	900	895	697	140.00	154,000	
Planning and prescriptions							12,000	
Studies funding							0	1
Total dollars							166,000	

12/28/2005

South Island Forest District Roll Up (TFL and TSA Combined)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	5600	4020	3789	2900	2550	25.09	140500	
Site preparation	4	53	50	25	25	849.15	3400	
Planting	223	213	205	100	100	1,434.96	320000	
Brushing	650	453	303	200	125	1,319.99	858000	
Totals hectares	6477	4739	4347	3225	2800	204.09	1,321,900	
Seed purchase	3000	3000	0	0	0	0.67	2,000	
Prescriptions and planning dollars							85,200	
Total backlog reforestation							1,409,100	
Impeded areas								
Surveys	1900	1750	550	150	150	25.53	48500	
Brushing	930	730	630	130	130	1,106.45	1029000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	2830	2480	1180	280	280	380.74	1,077,500	
Prescriptions and planning dollars							46,400	
Total impeded areas							1,123,900	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	150	150	150	175	175	2,859.92	429000	
Reforestation	2	2	2	2	2	1,246.88	2500	
Totals hectares	152	152	152	177	177	2,838.55	431,500	
Seed purchase	1,600	1,600	1,600	1,600	1,600	0.62	1,000	
Prescriptions and planning dollars							40,500	
Total site restoration							473,000	
Backlog Program Activities - Management Unit Total								
Surveys	7500	5770	4339	3050	2700	25.20	189000	
Site preparation	154	203	200	200	200	2,807.54	432400	
Planting	225	215	207	102	102	1,433.21	322500	
Brushing	1580	1183	933	330	255	1,194.29	1887000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	9459	7371	5679	3682	3257	299.28	2830900	
Seed purchase	4600	4600	1600	1600	1600	0.65	3000	
Prescriptions and planning							172,100	
Recommended studies							0	
Total backlog program							3,006,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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Arrowsmith TSA
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys (FTG Only)	1000	1000	1000	500	500	25.00	25000	2
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	1000	1000	1000	500	500	25.00	25,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							25,000	
Impeded areas								
Surveys (PST)	500	500	500	100	100	25.00	12500	2
Brushing	500	500	500	100	100	900.00	450000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1000	1000	1000	200	200	462.50	462,500	
Prescriptions and planning dollars ($50/ha)							25,000	1
Total impeded areas							487,500	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	[illegible]	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	1500	1500	1500	600	600	25.00	37500	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	500	500	500	100	100	900.00	450000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	2000	2000	2000	700	700	243.75	487500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							25,000	
Recommended studies							0	
Total backlog program							512,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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Naka TFL 25 - Block 1 Jordan River - South Island Forest District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Legal Obligations							
Surveys	0	0	0	0	0	0.00	0
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Max. density spacing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Total legal obligations							0
Backlog Reforestation							
Surveys	0	0	0	0	0	0.00	0
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total backlog reforestation							0
Impeded areas							
Surveys	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Density spacing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total impeded areas							0
Site Restoration							
Fill planting	0	0	0	0	0	0.00	0
Rehabilitation	0	0	0	0	0	0.00	0
Reforestation	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total site restoration							0
Backlog Program Activities - Management Unit Total							
Surveys	0	0	0	0	0	0.00	0
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Density spacing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning							0
Recommended studies							0
Total backlog program							0

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

No Backlog Program Remaining for TFL 25 Block 1

12/28/2005

TFL44 - Weyerhaeuser Company Ltd.
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	2500	2000	1800	1800	1500	25.00	62500	1
Site preparation	0	50	50	25	25	0.00	0	
Planting	200	200	200	100	100	1,485.00	297000	2
Brushing	300	200	150	150	75	1,320.00	396000	1
Totals hectares	3000	2450	2200	2075	1700	251.83	755,500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							50,400	1
Total backlog reforestation							805,900	
Impeded areas								
Surveys	1100	1100	0	0	0	25.00	27500	2
Brushing	0	50	50	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1100	1150	50	0	0	25.00	27,500	
Prescriptions and planning dollars							4,800	2
Total impeded areas							32,300	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	100	100	100	125	125	2,860.00	286000	1
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	100	100	100	125	125	2,859.94	286,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							26,000	1
Total site restoration							312,000	
Backlog Program Activities - Management Unit Total								
Surveys	3600	3100	1800	1800	1500	25.00	90000	
Site preparation	100	150	150	150	150	2,859.94	286000	
Planting	200	200	200	100	100	1,484.98	297000	
Brushing	300	250	200	150	75	1,319.99	396000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	4200	3700	2350	2200	1825	254.52	1069000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							81,200	
Recommended studies							0	
Total backlog program							1,150,200	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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TFL 46
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	100	20	0	0	0	30.00	3000	2
Site preparation	3	3	0	0	0	800.00	2400	2
Planting	3	3	0	0	0	1,000.00	3000	2
Brushing	0	3	3	0	0	0.00	0	2
Totals hectares	106	29	3	0	0	79.24	8,400	
Seed purchase	3000	3000	0	0	0	0.67	2,000	2
Prescriptions and planning dollars							1,200	2
Total backlog reforestation							11,600	
Impeded areas								
Surveys	200	50	50	50	50	30.00	6000	1
Brushing	30	30	30	30	30	1,400.00	42000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	230	80	80	80	80	208.69	48,000	
Prescriptions and planning dollars							2,000	1
Total impeded areas							50,000	
Site Restoration								
Fill planting	0	0	0	0	0	#DIV/0!	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	2	2	2	2	2	1,250.00	2500	1
Totals hectares	2	2	2	2	2	1,249.38	2,500	
Seed purchase	1,600	1600	1600	1600	1600	0.63	1,000	1
Prescriptions and planning dollars							1,500	1
Total site restoration							5,000	
Backlog Program Activities - Management Unit Total								
Surveys	300	70	50	50	50	30.00	9000	
Site preparation	3	3	0	0	0	799.47	2400	
Planting	5	5	2	2	2	1,099.78	5500	
Brushing	30	33	33	30	30	1,399.91	42000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	338	111	85	82	82	174.26	58900	
Seed purchase	4600	4600	1600	1600	1600	0.65	3000	
Prescriptions and planning							4,700	
Recommended studies							0	
Total backlog program							66,600	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Interfor TFL 54 Escalante Block
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	239	100	50	0.00	0	
Site preparation	1	0	0	0	0	1,000.00	1000	1
Planting	20	10	5	0	0	1,000.00	20000	1
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	21	10	244	100	50	999.90	21,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							21,000	
Impeded areas								
Surveys	0	0	0	0	0	0.00	0	
Brushing	300	100	50	0	0	1,350.00	405000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	300	100	50	0	0	1,349.99	405,000	
Prescriptions and planning dollars							5,000	
Total impeded areas							410,000	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	239	100	50	0.00	0	
Site preparation	1	0	0	0	0	998.00	1000	
Planting	20	10	5	0	0	999.85	20000	
Brushing	300	100	50	0	0	1,349.99	405000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	321	110	294	100	50	1,327.06	426000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							5,000	
Recommended studies							0	
Total backlog program							431,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 57 - Weyerhaeuser Company Ltd.
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	2000	1000	750	500	500	25.00	50000	1
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	350	250	150	50	50	1,320.00	462000	1
Totals hectares	2350	1250	900	550	550	217.87	512,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							33,600	1
Total backlog reforestation							545,600	
Impeded areas								
Surveys	100	100	0	0	0	25.00	2500	2
Brushing	100	50	0	0	0	1,320.00	132000	2
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	200	150	0	0	0	672.50	134,500	
Prescriptions and planning dollars							9,600	2
Total impeded areas							144,100	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	50	50	50	50	50	2,860.00	143000	1
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	50	50	50	50	50	2,859.89	143,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							13,000	1
Total site restoration							156,000	
Backlog Program Activities - Management Unit Total								
Surveys	2100	1100	750	500	500	25.00	52500	
Site preparation	50	50	50	50	50	2,859.89	143000	
Planting	0	0	0	0	0	0.00	0	
Brushing	450	300	150	50	50	1,320.00	594000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	2600	1450	950	600	600	303.65	789500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							56,200	
Recommended studies							0	
Total backlog program							845,700	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

South Island Forest District Roll Up (TFL and TSA Combined)
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

Potential volume/ha gain (m3/ha/yr) provincial factors:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
0.77	0	0.25	0	1.9	0.25	0	0	0.46	

Years the factor will affect:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
65	65	65	65	65	65	65	65	65	

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.
Provincial factors for estimated value gain at harvest

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
						7	20	2	

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.
Est. short term employment rate (person days/ha) provincial factors:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	225		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	225		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			8,625
Total backlog surveys from the backlog table.			7,500
33% of all silviculture surveys			5,321
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply			5,321
Replace with (A) if a more exact estimate is calculated			
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)			
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)			
Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

South Island Forest District Roll Up (TFL and TSA Combined)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improve-ment	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	225	0	5,321	154	225	1,580	465	600	3,731	12,311	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	11,262	0	86,470	0	27,790	25,675	0	0	111,930		263,128
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.05	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	23	0	532	146	450	4,124	1,841	2,724	672	1,231	
3.3	Estimated total full time equivalent positions (FTE)	0	0	3	1	3	23	10	15	4	7	65
4.1	**Forest Health Enhancement (ha)**											200
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											10
5.3	Est. area with secondary value provided to biodiversity (ha)											0

South Island Forest District Roll Up (TFL and TSA Combined)
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	13,431	14,185	13,905	11,875	11,737	245	3,290,810
Planning, prescriptions and seedlings							265,500
Backlog Program Field Activities	9,459	0	0	0	0	299	2,830,900
Planning, prescriptions and seedlings							175,100
Totals	22,890	14,185	13,905	11,875	11,737		6,562,310

Performance Measures

Potential total merchentable volume increment in 65 years	263,128 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	65 FTEs
Forest health enhancement area	200 ha
Planned area for specific wildlife forage or habitat maintenance	10 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement. The template design allows completion in a consistent format for all management units across the province. Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Arrowsmith TSA

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Arrowsmith TSA
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1750	1750	1750	1200	1200	25.00	43750	2
Spacing	350	350	350	350	350	1600.00	560000	1
Pruning	250	250	250	250	250	1500.00	375000	3
Fertilizing	1000	1000	1000	500	500	250.00	250000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	3350	3350	3350	2300	2300	366.79	1,228,750	
Planning and prescriptions							43,750	2
Total dollars							1,272,500	

Forest Health Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	0	0	0	0	0	0.00	0	
Pruning	150	150	150	100	100	1,000.00	150000	1
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	150	150	150	100	100	999.99	150,000	

Habitat Supply and Biodiversity Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1750	1750	1750	1200	1200	25.00	43,750	
Spacing	350	350	350	350	350	1,600.00	560,000	
Pruning	400	400	400	350	350	1,312.50	525,000	
Fertilizing	1000	1,000	1,000	500	500	250.00	250,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	3500	3500	3500	2400	2400	393.93	1,378,750	
Planning and prescriptions							43,750	
Studies funding							0	
Total dollars							1,422,500	

12/28/2005

Arrowsmith TSA
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys (FTG Only)	1000	1000	1000	500	500	25.00	25000	2
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	1000	1000	1000	500	500	25.00	25,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							25,000	
Impeded areas								
Surveys (PST)	500	500	500	100	100	25.00	12500	2
Brushing	500	500	500	100	100	900.00	450000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1000	1000	1000	200	200	462.50	462,500	
Prescriptions and planning dollars ($50/ha)							25,000	1
Total impeded areas							487,500	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	1500	1500	1500	600	600	25.00	37500	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	500	500	500	100	100	900.00	450000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	2000	2000	2000	700	700	243.75	487500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							25,000	
Recommended studies							0	
Total backlog program							512,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Arrowsmith TSA
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

	Tree Improve-ment	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3) Estimates of annual growth rate increase from each type of treatment over no treatment. **Potential volume/ha gain (m3/ha/yr) provincial factors:**	0.34	0	0.25	0	1.9	0.25	0	0	0.40	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%. **Provincial factors for estimated value gain at harvest**							7	20	2	
3) Corporate commitment to employment Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare. **Est. short term employment rate (person days/ha) provincial factors:**	0.1	0.34	0.07	0.95	2	2	3.3	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improve-ment	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			1,750
Total backlog surveys from the backlog table.			1,500
33% of all silviculture surveys			1,073
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			1,073
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Arrowsmith TSA
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	1,073	0	0	500	350	400	1,000	3,323	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.34	0	0.25	0	1.9	0.25	0	0	0.40		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	17,428	0	0	8,125	0	0	26,000		51,554
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.07	0.95	2	2	3.3	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	75	0	0	1,000	1,155	1,816	180	332	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	6	6	10	1	2	25
4.1	**Forest Health Enhancement (ha)**											150
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Arrowsmith TSA
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	3,500	3,500	3,500	2,400	2,400	394	1,378,750
Planning, prescriptions and seedlings							43,750
Backlog Program Field Activities	2,000	0	0	0	0	244	487,500
Planning, prescriptions and seedlings							25,000
Totals	5,500	3,500	3,500	2,400	2,400		1,935,000

Performance Measures

Potential total merchentable volume increment in 65 years	51,554 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	25 FTEs
Forest health enhancement area	150 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

ARROWSMITH TIMBER SUPPLY AREA
South Island Forest Disctrict

RESOURCE MANAGEMENT PLAN
For the period 2001-2006

SUSTAINABLE HARVEST COMPONENT

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Arrowsmith Timber Supply Area
2001-2006 Resource Management Plan
Sustainable Harvest Component

Article 1 Introduction

This document was prepared in response to the FRBC requirement for resource management planning. The information that follows gives a background to the Arrowsmith TSA, an outline of the timber supply issues, an incremental silviculture history and a link to the timber supply review process. The latter part of this document outlines opportunities to increase timber supply and timber quality, provides working targets and supports these opportunities and targets with a proposed 5 year incremental silviculture program.

Article 2 Basic Data

Section 2.01 Administrative Information

The Arrowsmith TSA is located on the southern half of Vancouver Island within the Vancouver Forest Region. Many of the communities within the district are heavily dependent on the forest industry. The TSA consists of the Small Business Forest Enterprise Program (SBFEP) charted areas and Forest Licences.

Section 2.02 Land Area

Table 2.02 Land Area

Description	**Area(ha)**	**Area %**
Total Area of TSA	168,800	100
Total Productive Forest	124,600	74
Net Timber Harv. Land Base	75,200	45

Section 2.03 Annual Allowable Cut (AAC) and Harvest Forecast

Table 2.03 Annual Allowable Cut

AAC Type	Pre-TSR	TSR 1	Change (%)
Conventional			
- Main TSA		380,000	
- Clayoquot		13,700	
Sound Sub-Total	464,630	393,700	- 15.3
Deciduous	3870	6300	+62.8
Insect Disease			
Marginal			
Total	**468,500**	**400,000**	**-14.6**
Woodlot AAC		13,750	

The initial harvest level (IHL) of 468,500 m3 was maintained for only one decade. After this, declines averaging 12%/decade are expected until a midterm harvest level of 277,000 m3 (42% below IHL, 30% below TSR 1 AAC) is reached 50 years from now. This downturn will continue until 140 years from now, when the harvest rate will increases by 10%/decade to reach a long-term harvest level (LTHL) of 377,000m3 (30% below IHL, 14% below TSR 1 AAC).

Section 2.04 Site Class, Age Class and Tree Species Profile

Table 2.04a Site Class

Site Class	%
Poor	48
Medium	29
Good	23

In general, eastern portions of the TSA are dominated by younger, predominantly good and medium site Douglas-Fir stands. Western portions contain predominantly older, poor site, western red cedar and western hemlock stands. Table 2.04b shows age class distribution by percentage.

Table 2.04b Age Class Distribution

Age Class	**%**
NSR	0
0	8
1-20	9
21-40	12
41-60	9
61-80	17
81-100	5
101-120	1
121-140	1
141-250	12
251+	26

Table 2.04c Tree Species Profile

Species	**%**
Hemlock	28
Redcedar	29
Douglas-fir	37

Article 3 Timber Supply Issues

Section 3.01 Quantity

As previously mentioned the current AAC of 400,000 m3 is predicted to fall by 30% to 277,000 m3 in 50 years. A number of issues will affect the AAC over the next few decades including more demand for parks and reserve areas as well as:

(i) Forest Policy

- ✓ Forest Practices Code restricts harvest by introducing green up, adjacency and forest cover constraints.
- ✓ The Clayoquot Sound Land Use Decision is ecosystem based forestry that allows only 1% of pristine watersheds to be harvested over a 10-year period.
- ✓ The Vancouver Island Land Use Plan (VILUP) introduces the concept of Low Intensity Areas (LIA) to the planning process as well as more intensive timber production zones.

(ii) Biodiversity and Habitat Supply

- ✓ Future policies that affect timber harvesting include: Old Growth Management Areas (OGMA) and Landscape Unit Planning. Planning requirements like Forest Ecosystem Networks (FEN) will be an integral part of the Forest Development Plan process.
- ✓ Alternate or restrictive harvest policies to preserve wildlife habitat including but not limited to Marbled Murlets and the Northern Goose Hawk.
- ✓ The current trend is to use alternate silvicultural systems on the majority of timber sales.

(iii) Forest Health

- ✓ Root disease results in significant losses to Douglas-Fir Stands. Douglas fir makes up about 37% of the TSA and yields have been reduced by an average of 12% (using the WINTIPSY Operational Adjustment Factor 2).

Section 3.02 Quality

As the conversion to second growth harvesting takes place, timber quality will decline. Premium log content is expected to decline to slightly more than half of todays levels within 50 years.

Section 3.03 The Role of Incremental Silviculture

Incremental silviculture is a general strategy to mitigate constraining factors on timber supply within the Arrowsmith TSA. Currently, spacing of stands over 1600 sph, backlog brushing, and fertilization of poor and medium site index, commercially thinned Douglas-fir stands, are all part of the timber supply review process.

Juvenile spacing increases sawlog diameters, therefore making stands reach a merchantable size at an earlier age. It also makes the use of commercial thinning and alternate silvicultural systems a possibility. Commercial thinning, alternate silvicultural systems and the use of Wildlife Tree Patches (WTP's) will be a necessary part of harvesting, as the move to certification takes place.

Pruning is essential to maintaining a premium log content within the timber profile. Pruning will become increasingly critical as the conversion to second growth and smaller diameter sawlogs takes place.

Article 4 Incremental Silviculture History

Section 4.01 Incremental Treatments in the Arrowsmith TSA

Juvenile spacing and fertilization began, on a large scale, in the 1980's under FRDA (Forest Resource Development Agreement). It continued into the early 1990's under FRDA II, when the program began to include pruning. Many stands treated 15-20 years ago have been (or are planned for) commercial thinning under the SBFEP program. Without these treatments, commercial thinning would not be possible.

In 1995, FRBC picked up where FRDA left off. As opportunities to space and prune East Coast Douglas Fir stands were used up, the FRBC funded program switched to spacing and pruning on high density western hemlock stands. In 1997 the Ministry Outstanding and Backlog Reforestation Programs where picked up by FRBC. A down turn in FRBC revenues required a reduction in budgets which has resulted in a reduction of incremental treatments from 1109 ha in 1995 to 52 ha in 1999 well below historical levels for the TSA. See figure 4.01.

Table 4.01 FRDA II and FRBC Funded Silviculture Activities, Arrowsmith TSA, 1990-1999.

Year	**JS (ha)**	**Incremental Pruning (ha)**	**Total Incremental**	**Backlog Brushing**
1990	326	33	359	
1991	315	67	382	
1992	635	42	677	
1993	452	130	567	
1994	276	355	631	
1995	523	586	1109	
1996	132	286	418	
1997	518	197	715	83
1998	350	226	576	215
1999	43	9	52	377

Section 4.02 Link To AAC and TSR II

Only juvenile spacing has been modelled in to AAC calculations for TSR 2. The basic assumption is that all stands over 1600 stems per hectare will be controlled for density. The five-year silviculture plan for Arrowsmith TSA assumes that greater than half of all reforested openings will exceed this density. In addition, large areas of the Forest Licence on the West Coast still require juvenile spacing. Poorer west coast hemlock and cedar sites, that have not yet achieved the target 5m height criteria will require spacing in order to achieve minimum merchantable piece size in 100-120 years. The RMP target of 350 ha/yr. allows for completion of backlog spacing and for new areas with higher densities that will soon come on line.

Fertilization has not been included in TSR II because of insufficient modelling. Fertilization will have positive short term and medium term impacts on stands to be harvested.

Article 5 Opportunities to Increase Timber Supply

Section 5.01 Opportunities through TSR Sensitivity Analyses

Backlog and incremental treatments have the potential to increase timber supply in the Arrowsmith TSA by:

(i) ***Reducing green- up ages.*** Backlog brushing reduces the time to green up by increasing height growth on regenerating stands. Reducing green up shows substantial effects, particularly in the short term. Please note reducing green up also includes planting improved stock and fertilizing at the time of planting, both of which are currently considered basic obligations and not eligible for FRBC funding.

(ii) ***Creating opportunities to raise mid term harvests through commercial thinning and fertilization.*** Note that commercial thinning is made possible through juvenile spacing treatments. Fertilization, it is assumed, is generally applied to commercially thinned stands at least 10 years before harvest. Both practices could increase existing unmanaged stand yields by 10%.

(iii) ***Increasing Regenerated Stand Yields***. Both backlog brushing and fertilization will have an effect over the mid and long term. Timber Supply Review sensitivity analysis shows a 10% increase over the base case harvest forecast.

Article 6 Strategies to Increase the Quantity of Future Timber Supply

Section 6.01 Short Term

- ✓ Complete brushing of all backlog impeded stands in 3 years. Complete second treatments over the next two years, where necessary. The target of this program is to achieve full green and Free to Grow status of coniferous stands and to improve growth and yield where it is currently hindered by competing brush.
- ✓ Fertilize 1000+ ha/yr of second growth Douglas Fir stands within 10 years of harvest.

Section 6.02 Mid Term

- ✓ Continue and complete backlog brushing to reduce green up ages.
- ✓ Juvenile space 350 ha/yr. to allow commercial thinning of both Douglas fir and western hemlock stands. This will also allow harvesting, where not usually possible, in visual quality zones.
- ✓ Fertilize commercially thinned stands to increase final harvest yields.

Section 6.03 Long Term

- ✓ Increase regenerated stand yields through fertilization as mentioned above.
- ✓ Reduce green up time frames as mentioned above.
- ✓ Juvenile space to allow for use of alternate silvicultural systems in overcoming adjacency constraints.

Article 7 Strategies to Increase the Quality of Future Timber Supply

Section 7.01 Product Objectives

The following are definitions of premium logs and sawlogs in the Arrowsmith TSA.
Premium Log: 45 + cm dbh for pruned Douglas fir and 200+ yrs for unpruned Douglas fir.
Sawlog: In the former Duncan district portion of the TSA: age at which stand reaches 30m height. In the former Port Alberni district: East Zone- minimum dbh of 25 cm and min vol/ha of 300 m3; West Zone- 400 m3/ha; cable/heli zone-600 m3/ha. Ages range from 45 years on good sites to 165 years on poor sites.

Section 7.02 Potential Treatments/Strategy

- ✓ Prune all spaced stands. East Zone: Douglas fir 2 lifts (5.5m). West Zone: hemlock/cedar one lift (3.0m).
- ✓ Target pruning treatments early (if possible, concurrent with JS) to achieve a 10 cm knotty core.
- ✓ Fertilize after crown closure to speed the occlusion of knots an increase diameter growth.

Section 7.03 Premium Log Forecast

The proposed strategy is anticipated to have mid and long term effects. In the short term, harvests will largely come from very old stands in the west zone and will not be affected by the pruning strategy. This harvest profile will yield a premium log forecast of about 15%. The mid-term forecast is anticipated to yield a premium log profile of 8% and the long term forecast is expected to yield a profile of 9%.

Note that to achieve a higher premium log forecast, more pruning would have to be accomplished. Pruning on lower site indexes is not considered to yield a good return on investment, therefore only a longer rotation strategy could maintain the current profile of 15%.

Article 8 Habitat Supply

Section 8.01 **Issues**

A history of progressive clearcuts and silviculture practices that manage primarily for timber values, has contributed to a decreased amount of stand and landscape level biodiversity on the Arrowsmith TSA. Pre-Forest Practices Code harvesting also included cutting up to the banks of all streams.

Although future harvest planning will include practices such as riparian reserve zones, forest ecosystem networks (FEN's) and landscape unit planning, a deficit of habitat supply will still pose problems.

Section 8.02 Objectives/Treatments- Stand Level Biodiversity

Currently there are no habitat treatments such as riparian spacing planned for the TSA. Several objectives outlined in the Ministry of Environment *Habitat/Ecosystem Objectives and Monitoring Procedures for Incremental and Backlog Silviculture Treatments,* have been incorporated into the Sustainable Harvest program. Table 8.02b outlines objectives, practices and applicable silviculture treatments that contribute to stand level biodiversity.

Table 8.02b Objectives and Practices for Maintaining Stand Level Biodiversity

Objective	**Practice**	**Treatment: JS/PR/BR***
Manage for stand vertical and horizontal structure.	Allow for shade tolerant understory trees when spacing (i.e. Cw).	JS
Rehabilitate Riparian Management Areas	Include RMZ's and RRZ's in manual brushing treatments to encourage long term conifer establishment.	BR
	Space RMZ's and RRZ's to a lower density to encourage low density, large diameter conifer establishment.	JS
Maintain visual screening corridors or buffers for wildlife.	Maintain a 1 or 2 tree no-pruning buffer along roads. Do not prune WTP's.	PR
Retain wildlife trees and tree patches.	Plan for a percentage of area as WTP's in spacing layout. WTP's should include both high and low density stands.	JS
	Do not prune WTP's.	PR
Retain "rare" ecosystems, forest, plant and vegetation types.	Reserve cascara, dogwood, pacific crab apple, yew and other rare species from cutting when brushing or spacing.	JS BR

JS-Juvenile Spacing
PR-Pruning
BR-Brushing

Section 8.03 Objectives/Treatments-Landscape Level Biodiversity

In advance of landscape unit planning, South Island Forest District has a district policy on Wildlife Tree Patches. The idea is to maintain a percentage of each landscape unit as old growth forest or second growth forest with old growth characteristics. Therefore, wildlife tree patches will be retained when spacing and pruning. The district policy will be used as a guideline to determine the percentage of area to be retained as WTP's. This will ensure we are managing for WTP's in future harvest planning. Table 8.03a identifies landscape units where silviculture treatments are likely to happen and the applicable WTP retention percentage.

Table 8.03a WTP Retention Guidelines

Landscape Unit	**WTP Retention (by biogeoclimatic zone)**	
Effingham	CWH	6%
	MH	4%
Escalante	CWH	13%
	MH	10%
Maggie	CWH	13%
Nanaimo	CDF	12%
	CWH	17%
	MH	3%
Nanoose	CDF	12%
	CWH	13%
Qualicum	CDF	15%
	CWH	14%
Rosewall	CDF	13%
	CWH	15%
Toquart	CWH	7%
	MH	3%

In addition to the use of WTP's, it is expected that manual brushing and juvenile spacing RMZ's/RRZ's will contribute to the long-term establishment of Forest Ecosystem Networks. Although RRZ's will not contribute to the next AAC forecast, brushing and spacing will help to create the large diameter conifers necessary for re-establishing riparian habitat.

Article 9 Working Targets

TSR analysis indicates the following working targets may be attainable. Proposed silvicultural treatment regimes are important for meeting these targets.

Section 9.01 Quantity

- ✓ Maintain the current harvest level of 400,000 m3 in the short and mid terms, rising in 15 decades to a long-term harvest level of 435,000 m3.

Section 9.02 Quality

- ✓ Maintain the proportion of premium logs at or above 8% of future harvest volumes.

Section 9.03 Habitat Supply/Biodiversity

- ✓ Maintain the specified percentages of land area as Wildlife Tree Patches as per District Policy.
- ✓ Restore the majority of riparian management zones to free growing coniferous or mixed coniferous/deciduous stands on all pre-1987 harvested areas.
- ✓ WTP's and restored RMZ's to be available for harvest planning in 80 + years or by the commencement of second harvest.

Article 10 Proposed Program

The proposed sustainable harvest programs for Arrowsmith TSA are shown in the separate RMP tables.

The backlog brushing and juvenile spacing components are necessary to achieve the assumptions regarding incremental and basic silviculture in the current AAC determination.

Backlog brushing, juvenile spacing, pruning and fertilization will help to mitigate an AAC falldown in the Small Business Program. They are also an integral part of achieving the working targets as set out in this RMP.

The focus of this program will be to complete the majority of backlog brushing within 3 years, start on a regular juvenile spacing/pruning program and to fertilize 1000 ha/yr.

The proposed program is anticipated to provide 5500 person days of employment or 25 full time equivalent positions. Labour is expected to come from the silviculture contracting community through provincial or local tenders and using employees from New Forest Opportunities Ltd. There is also a long-term impact of 51,500m3 in wood volume, which will provide additional employment through the Small Business Forest Enterprise Program.

Article 11 Performance Measures

Regional productivity averages were used for pruning and fertilisation. Productivity was rated higher for surveys, juvenile spacing and brushing. Productivity figures for these activities come from 1998 and 1999 contracts on the TSA. Productivity has improved since the introduction of incentive based pay under NFOL. In addition, easier ground on the East Coast areas increases the average productivity for the whole TSA.

Article 12 Licensee Partnerships

A meeting was conducted with representatives from Interfor in the spring of 2000. Interfor has included TSA funding in their online plan and taken on the implementation of a survey/brushing program on Forest Licence A19235. They are running this program concurrent with surveys and brushing on TFL 54. Interfor has a camp that allows access to most of FLA19235 and TFL 54. Since the majority of backlog brushing remains in this remote West Coast location, Ministry of Forests benefits greatly from working in partnership with Interfor.

In addition, Weyerhaeuser has also included TSA funding in their online plan. Weyerhaeuser is currently using the services of Renewal Investment Corporation (RIC) to implement their FRBC funded SH program. RIC has been responsible for implementing a free growing surveys program and a brushing program on the remainder of the TSA.

Ongoing communications with Interfor and Weyerhaeuser (RIC) by phone, e-mail and occasional meetings are part of creating a streamlined process to survey and declare backlog openings free growing. This process also applies to the development and approval of brushing treatment prescriptions as well as the implementation of a brushing program. Both partnerships have been essential to completing the FRBC funded SH program in South Island Forest District.

REFERENCES

1. *Arrowsmith Timber Supply Area. Incremental Silviculture Strategy (Interim).* Version 1.0. British Columbia Ministry of Forests. August 31, 1998.
2. *District Wildlife Tree Patch Policy (DSI-01).* December 8, 1997.
3. *Habitat Objectives and Monitoring Procedures for Incremental Silviculture.* Ministry Of Environment Lands and Parks. June 1998.

Appendix 1 Silviculture History for the Arrowsmith TSA

YEAR	SU	SP	PL	BR	JS	PR	FE GR	FE HELI
1999	5484.4	258.3	1306.3	560.7	43.2	76.2	75.5	
1998	3548.2	329.4	3124.8	1364.8	349.8	379.6	438.4	
1997	2799.2	561.5	4714.4	742.7	517.5	300.3	1066.8	
1996	2473.9	441.6	6218.4	1044.2	132.7	378.8	1443.9	109
1995	2241.5	1588.5	5694.6	635.9	522.8	606.2	2.2	447.8
1994	1781.1	1926.6	5315.5	592.8	275.9	437.3	34.9	160.2
1993	242.5	983.3	3173.6	486.5	452.1	145.5	2.2	353
1992	323.3	449.8	4257	598.9	635.3	42	4.7	619
1991	38	1031.2	4508.8	512	315	67		856
1990	174	956.8	3225.6	553	326.6	33		1084
1989	19	807.8	2653.8	1112.5	418.6	325		279
1988	23	1046.9	1386.5	548	637	132		2113
1987		477.4	1484	594	553	104		588
1986		826	660	986.5	336	9		856
1985		510	869	743.5	224	12		
1984		633	703	1143.5	632	167		
1983		256	1112.5	1015	423.3	203		
1982		494	1172	528.5	1078			
1981		341	1242	353	1134			2300
1980		558	522	121	1508.7			2739.7
1979		910	461	70	1545	5		585
1978		341	721	12	712			563
1977		514	287		137			
1976		251	312					
1975		15	635					
1974		678	163					
1973		68	148					
1972		134	272					
1971		337	520		32			
1970		415	531					
1969		73	0					
1968		173	77					
1967		411	379					
1966		429	23					
1965		554	229					
1964		41	154					
1963		227	143					
1962		298	139					
1961		335	0					
1960		29	0					

1959		22	0					
1958		66						
1957			12					
1956		22						
1955								
1954		17						
1953								
1952								
1951		31						
1950			286					
1949			341					
1948			1323					
1947			562					
1946			301					
1945		655	205					
1944		36	271					
1943			246					
1942		519	579					
1941		443	972					
1940		117	13					
1939		84	106					
1938		34						
1937		558						
1936		68						
1935								
1934		225						
1933								
1932		15						
1931								
1930		21	59					
1929		359						
1928		443						
1927		90						
1926		76						
1925		4						
1924								
1923		32						
TOTAL HA	19148.1	24647.1	63813.8	14319	12941.5	3422.9	3068.6	13652.7

Appendix 2 Treatment Regime Table

Updated to reflect more current Performance Measures September 2000.

Regimes	Opportunity Area (ha/yr)	Timber Supply Effects			Quality	Direct Jobs		Direct Cost $/ha	Habitat	Rank
		Short	Medium	Long		Silv Days/ha	Harv Days/m3			
1 **Backlog Brushing**	100	0	A++	A++	0	3				1
Spacing										
2 East G&M, Fdc @4.5m, 600-700sph Poor, Fdc @4.5m, 800-900sph	175	0	A+	A+	+					3
3 West G&M, Hem/C @5-6m, 800-1000sph Poor, Hem/C @5-6m, not spaced	150	0	A+	A+	+					4
4 **Habitat**	5% of above								+++	
Pruning										
5 East all stems, Fdc @4.5m, 1st lift 2.5m 300sph, Fdc @9m, 2nd lift 2.5m Remainder @ 3.0m	350	0	0	0	+++					3
6 West all stems, Hem/C @5-6m 1st lift 3m No second lift	150	0	0	0	++					5
Fertilization										
7 East P&M only, Fdc after CT	300	B+	B++	B++	0	0.1				2
After 2nd lift prune	200	0	0	0	+	0.1				6

Notes:

A-type timber supply effects are incorporated in the TSR base case.
B-type timber supply effects are incremental to the TSR base case.

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement. The template design allows completion in a consistent format for all management units across the province. Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

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a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Naka TFL 25 - Block 1 Jordan River - South Island Forest District

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

12/28/2005

Naka TFL 25 - Block 1 Jordan River - South Island Forest District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	priority
Surveys	575	625	550	50	50	25.00	14375	1
Spacing	25	25	25	25	25	2000.00	50000	1
Pruning	150	100	25	25	25	2000.00	300000	1
Fertilizing	400	500	500	0	0	600.00	240000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	1150	1250	1100	100	100	525.54	604,375	
Planning and prescriptions							15,750	1
Total dollars							620,125	

Note: fertilisation $'s/ha are higher than normal as some SCHIRP style applications with higher application rates (740 kg/ha) are planned.

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0
Pruning	0	0	0	0	0	0.00	0
Other treatments	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0

Habitat Supply and Biodiversity Enhancement

Treatments	0	0	0	0	0	0.00	0

Domestic Range

Treatments	0	0	0	0	0	0.00	0

Enhanced Forestry Activities - Management Unit Total

Surveys	575	625	550	50	50	25.00	14,375	
Spacing	25	25	25	25	25	1,999.92	50,000	
Pruning	150	100	25	25	25	1,999.99	300,000	
Fertilizing	400	500	500	0	0	600.00	240,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	1150	1250	1100	100	100	525.54	604,375	
Planning and prescriptions							15,750	
Studies funding							30000	1
Total dollars							650,125	

Naka TFL 25 - Block 1 Jordan River - South Island Forest District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**	
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Surveys	0	0	0	0	0	0.00	0
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Max. density spacing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Total legal obligations							0
Backlog Reforestation							
Surveys	0	0	0	0	0	0.00	0
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total backlog reforestation							0
Impeded areas							
Surveys	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Density spacing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total impeded areas							0
Site Restoration							
Fill planting	0	0	0	0	0	0.00	0
Rehabilitation	0	0	0	0	0	0.00	0
Reforestation	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning dollars							0
Total site restoration							0
Backlog Program Activities - Management Unit Total							
Surveys	0	0	0	0	0	0.00	0
Site preparation	0	0	0	0	0	0.00	0
Planting	0	0	0	0	0	0.00	0
Brushing	0	0	0	0	0	0.00	0
Density spacing	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0
Seed purchase	0	0	0	0	0	0.00	0
Prescriptions and planning							0
Recommended studies							0
Total backlog program							0

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

No Backlog Program Remaining for TFL 25 Block 1

12/28/2005

Naka TFL 25 - Block 1 Jordan River - South Island Forest District
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)

Estimates of annual growth rate increase from each type of treatment over no treatment.

Potential volume/ha gain (m3/ha/yr) provincial factors:

0.34	0	0.25	0	1.9	0.25	0	0	0.40	

Years the factor will affect:

65	65	65	65	65	65	65	65	65	

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

Provincial factors for estimated value gain at harvest

						5-15%	15-30%	1-5%	

3) Corporate commitment to employment

Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

Est. short term employment rate (person days/ha) provincial factors:

0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			575
Total backlog surveys from the backlog table.			0
33% of all silviculture surveys			190
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			190
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply

Help staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Naka TFL 25 - Block 1 Jordan River - South Island Forest District
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	190	0	0	0	25	150	400	765	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.34	0	0.25	0	1.9	0.25	0	0	0.40		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	3,083	0	0	0	0	0	10,400		13,484
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							5-15%	15-30%	1-5%		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	19	0	0	0	99	681	72	76	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	1	4	0	0	5
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat creation in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Naka TFL 25 - Block 1 Jordan River - South Island Forest District
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	1,150	1,250	1,100	100	100	526	604,375
Planning, prescriptions and seedlings							45,750
Backlog Program Field Activities	0	0	0	0	0	0	0
Planning, prescriptions and seedlings							0
Totals	1,150	1,250	1,100	100	100		650,125

Performance Measures

Potential total merchentable volume increment in 65 years	13,484 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	5 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat creation	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

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TFL44 - Weyerhaeuser Company Ltd.
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	4000	6000	6250	6500	6500	27.50	110000	1
Spacing	0	0	50	75	100	0.00	0	
Pruning	0	0	0	0	35	0.00	0	
Fertilizing	1000	1000	1200	1200	1200	440.00	440000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	5000	7000	7500	7775	7835	110.00	550,000	
Planning and prescriptions							50,000	1
Total dollars							600,000	
Note: fertilisation $'s/ha are higher than normal as some SCHIRP style applications with higher application rates (740 kg/ha) are planned								
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	50	50	50	50	50	1,320.00	66000	2
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	50	50	50	50	50	1,319.95	66,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	50	150	300	300	0.00	0	
Totals hectares	0	50	150	300	300	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	4000	6000	6250	6500	6500	27.50	110,000	
Spacing	0	0	50	75	100	0.00	0	
Pruning	50	50	50	50	85	1,319.97	66,000	
Fertilizing	1000	1,000	1,200	1,200	1,200	440.00	440,000	
Other stand tending activities	0	50	150	300	300	0.00	0	
Totals hectares	5050	7050	7550	7825	7885	121.98	616,000	
Planning and prescriptions							50,000	
Studies funding (sp forage $25k, old growth attributes $25k, GIS aerial fert $10k)							60000	1
Total dollars							726,000	

12/28/2005

TFL44 - Weyerhaeuser Company Ltd.
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	2500	2000	1800	1800	1500	25.00	62500	1
Site preparation	0	50	50	25	25	0.00	0	
Planting	200	200	200	100	100	1,485.00	297000	2
Brushing	300	200	150	150	75	1,320.00	396000	1
Totals hectares	3000	2450	2200	2075	1700	251.83	755,500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							50,400	1
Total backlog reforestation							805,900	
Impeded areas								
Surveys	1100	1100	0	0	0	25.00	27500	2
Brushing	0	50	50	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1100	1150	50	0	0	25.00	27,500	
Prescriptions and planning dollars							4,800	2
Total impeded areas							32,300	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	100	100	100	125	125	2,860.00	286000	1
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	100	100	100	125	125	2,859.94	286,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							26,000	1
Total site restoration							312,000	
Backlog Program Activities - Management Unit Total								
Surveys	3600	3100	1800	1800	1500	25.00	90000	
Site preparation	100	150	150	150	150	2,859.94	286000	
Planting	200	200	200	100	100	1,484.98	297000	
Brushing	300	250	200	150	75	1,319.99	396000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	4200	3700	2350	2200	1825	254.52	1069000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							81,200	
Recommended studies							0	
Total backlog program							1,150,200	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

TFL44 - Weyerhaeuser Company Ltd.
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.50	0	0.5	0	2.0	0.5	0	0	0.50	
Years the factor will affect:	70	70	70	70	70	70	70	70	10	

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Provincial factors for estimated value gain at harvest							2	2	2	

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	200		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	200		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			4,000
Total backlog surveys from the backlog table.			3,600
33% of all silviculture surveys			2,508
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			2,508
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			0
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			1,000

Habitat Supply
Melp staff professional judgement used to estimate this performance measure

Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.	0

TFL44 - Weyerhaeuser Company Ltd.
Performance Measures Based on Activities Planned for 2001/2002
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	200	0	2,508	100	200	300	0	50	1,000	4,358	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.50	0	0.5	0	2.0	0.5	0	0	0.50		
1.2	Years the factor will apply	70	70	70	70	70	70	70	70	10		
1.3	Pot. total merch. volume increment in 65 years (m3)	7,000	0	87,780	0	28,000	10,500	0	0	5,000		138,281
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			1,000								1,000
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							2	2	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	20	0	251	95	400	783	0	227	180	436	
3.3	Estimated total full time equivalent positions (FTE)	0	0	1	1	2	4	0	1	1	2	13
4.1	**Forest Health Enhancement (ha)**											50
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

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TFL44 - Weyerhaeuser Company Ltd.
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	5,050	7,050	7,550	7,825	7,885	122	616,000
Planning, prescriptions and seedlings							110,000
Backlog Program Field Activities	4,200	0	0	0	0	255	1,069,000
Planning, prescriptions and seedlings							81,200
Totals	9,250	7,050	7,550	7,825	7,885		1,876,200

Performance Measures

Potential total merchentable volume increment in 65 years	138,281 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	1,000 ha
Estimated total full time equivalent positions generated	13 FTEs
Forest health enhancement area	50 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

TFL Forest Limited - FRBC MYA CON 0001069 PAM98405

RESOURCE MANAGEMENT PLAN

SUSTAINABLE HARVEST STRATEGIC OBJECTIVE

TFL 46

2001/2002 to 2005/2006

This document and the attached tables recommend sustainable harvest activities in TFL 46 to support the FRBC Sustainable Harvest Strategic Objective.

TFL 46 is held by TFL Forest Ltd (TimberWest) and is located within the Ministry of Forests South Island Forest District.

Areas within the TSA, within or adjacent to areas where TimberWest operates, are not included in this plan.

The 2000/2001 Resource Management Plan (RMP) for TFL 46 was revised by TimberWest's operations foresters to produce this plan.

Despite increasing site-specific knowledge, most backlog, enhanced and forest health treatment areas were not identified on the ground at the time this RMP was prepared. It is expected that strategic planning and field surveys being done in 2000/2001 will identify most treatment areas for 2001/2002 and a portion of the areas to be treated in subsequent years.

A recently completed Forage Enhancement Management Plan for Deer Winter Range will guide habitat management activities for that species (after appropriate consultation and revision). General biodiversity / habitat supply plans and plans for rare, endangered or regionally significant species are not expected to be completed in 2000 however this initiative remains a priority and planning will be initiated when TimberWest determines the strategy to guide activities on the TFL.

REFERENCES AND ANALYSES

This plan is based on:

1. TimberWest Forest Limited, TFL 46 Management Plan No. 3, September 1996;
2. Timber Supply Analysis, April 1995, Appendix III to Management Plan No. 3;
3. Information Report No. 2 - TFL 46 Management Plan No. 3, Density Management: Assumptions in Timber Supply Analysis and Relationships to Future Product Opportunities;
4. Information Report No. 3 - TFL 46 Management Plan No. 3, Relationships between yield analysis assumptions, harvest strategies and stand management practices;
5. BC Ministry of Forests, TFL 46 Rationale for allowable annual cut determination, December 1996;
6. McWilliams, E.R.G. and R.E. Carter, 1998. Silviculture Investment Opportunities: A Methodology for Identifying Key Decision Variables. FRBC No. HQ96463-RE
7. B.A. Blackwell and Associates Ltd. 1999. Backlog and Enhanced Forestry Strategies within TFL 46.
8. Leigh-Spencer, S. 2000. TFL 46 Deer Winter Range and Forage Enhancement Management Plan
9. Local knowledge of TimberWest Foresters and Technicians

DESCRIPTION OF THE AREA

The following paragraph is paraphrased from BC Ministry of Forests, TFL 46 Rationale for allowable annual cut determination, December 1996.

TFL 46 is generally located between Cowichan Lake and Port Renfrew on the west coast of southern Vancouver Island. The topography of the area is variable, ranging from flat, alluvial river valleys to steep, rugged and rocky slopes. Most of the drainages in the TFL flow westward. The Cowichan Valley drains eastward through more gentle terrain than the west coast portion. A temperate, wet climate prevails over TFL 46 with an average annual precipitation of about 380 centimetres and average daily temperatures between -8 and 27 degrees Celsius. Snowfall is limited along the coastline but reaches as much as 100 centimetres in higher elevations. TFL 46 is dominated by Douglas-fir and hemlock stands, with smaller amounts of cedar, balsam and alder largely making up the remainder of the forested area. Because of the relatively long logging history in this area, much of the TFL is covered by young, second growth stands. The current AAC for the management unit is 535,000 cubic meters (effective December 1, 1996).

Basic Data

Total forested area	95,094 ha	(new compilation for current SMOOP)
Net harvestable area	70,512 ha	(new compilation for current SMOOP)
AAC	462,000 m3	(January 1, 1997 to December 31, 2001)

It should be noted that the reduction in the AAC is indicative of the private lands being removed from the TFL. There was also a further 5% reduction in the AAC when the ownership of the TFL changed to TimberWest.

Site Class Profile

Site class	Percent
10	1.1%
15	3.9%
20	15.6%
25	37.9%
30	32.7%
35	7.8%
40	0.9%
45	0.2%
	100.0%

Species Profile

Lead species	Percent
Ac	0.0%
Ba	6.0%
Bg	0.1%
Cw	12.0%
Dr	2.1%
Fd	40.8%
Hw	35.9%
Mb	0.1%
Pl	0.0%
Pw	0.0%
Ss	0.2%
Wi	0.1%
Yc	2.6%
	100.0%

Age Class Profile

Age Range	Percent
0-9	9.3%
10-19	10.9%
20-29	10.1%
30-39	12.3%
40-49	11.0%
50-59	7.5%
60-69	3.5%
70-79	2.5%
80-89	0.5%
90-99	0.8%
100-109	0.1%
110-119	0.0%
120-129	0.0%
130-139	0.0%
150-159	0.0%
250+	31.4%
	100.0%

SILVICULTURE HISTORY

TFL 46 (INCLUDING TFL 22)

Year	Logged	Planted	Fert	Juvenile Spaced	Pruned	Fires	Site Preperation	Brushed
1955	417	368						
1956	516	301						
1957	578	492						
1958	712	655						
1959	564	579						
1960	652	679						
1961	633	1255						
1962	708	1304						
1963	868	1003						
1964	881	1374						
1965	935	1675		13				
1966	902	2137		49				
1967	997	1851		58				
1968	1022	1484		83				
1969	923	1388		180				
1970	775	1580		183				
1971	772	1225		192				
1972	746	1133		210				
1973	904	1507		616				
1974	952	1508		643				
1975	596	993	223	540				
1976	1054	1418	255	1957				
1977	1088	1595	404	2739				
1978	1209	1472	764	2486				587
1979	1243	1331	1357	2650				494
1980	1187	1194	2021	1709				404
1981	1029	1734	2362	2126		26		214
1982	790	1593	3885	777				156
1983	690	787		1315	17			242
1984	992	931		200	128	102		276
1985	1112	1237		569	37		595	463
1986	802	404		628	25		18	129
1987	1279	995		941			238	380
1988								
1989	751	1534	9	66			208	
1990	540	229				1	263	
1991	695	1226					484	8
1992	408	225		260		3	40	158
1993	402	1351		640	10			34
1994	498	632		440	67	1	23	252
1995	382	1080					24	65
1996	388	1019	211	16		2		84
1997	414	769	104	51		1		62
1998	321	365	18	8				83
1999	443	288	27	109	21			61
Total	33770	47900	11640	22454	305	136	1893	4152
Average	768	1089	265	510	7	3	43	94

As a consequence of the long harvesting history on this unit, the majority of the timber harvesting land base, about 78 percent, is covered by stands younger than 120 years of age. There are almost no stands currently between the ages of 120 and 250 years. Due in part to historical planting efforts, approximately 41 percent of the timber harvesting land base is covered by Douglas-fir (Fd) stands. When available, genetically improved seedlings were planted. Approximately 22,500 hectares have been pre-commercially thinned and about 11,600 hectares have been fertilized.

Harvest Forecast

The 1995 harvest forecast projects a sustainable timber supply of 535,000 cubic meters over the next 170 years. Most of this harvest will be from second growth stands. In 1999, all private land within the TFL was removed. There was a further 5% reduction to the AAC when the ownership of the TFL changed to TimberWest in 1993. The net effect on the AAC for the public lands within the TFL is a reduction to 462,000 m3/year.

The planning process for Management Plan No. 4 is underway. Inventory information, analyses and strategies to address issues will become available during the planning process or thereafter. Pertinent inventories and plans will be used to develop and refine this sustainable harvest plan when they become available.

RECOMMENDED PROGRAM

Objective: Return on investment

Silvicultural investments on TFL 46 are directed first to generate a positive financial return.

Planned activities:

1. Aerial fertilization of Fd. Treatment planned for 2000 and 2001. Resolution of First Nation concerns may delay the program.

2. Ground-based, mechanical fertilization of Fd. Annual program planned for intensively managed Fd plantations after spacing or thinning and for areas where Fd is left after variable retention harvest.

3. Manual fertilization of Fd. Annual program in areas being brushed, pruned or spaced.

4. Brushing of impeded stands. Small annual program planned. Areas to be located by surveys to be done in 2000 and 2001. All areas logged prior to 1987 that have not been assessed for free-growing status and areas suspected to have unacceptable levels of vegetation competition will be surveyed.

5. Reforestation of backlog and industry outstanding areas. Focus is on medium to high site quality land lost to slides, to competing vegetation, to root disease and to fire. Some area may originate from road deactivation under WRP. Total area is likely to be limited. Areas to be located by surveys to be done in 2000 and 2001. Work to start in 2001.

6. Planning, survey and treatment of areas which are to be intensively managed under a regime of:
   - limited juvenile spacing;
   - early-rotation fertilization;
   - early commercial thinning, perhaps repeated;
   - periodic fertilization

   Areas to be identified and treated annually.

7. Spacing and perhaps pruning and fertilization to encourage development of desired habitat conditions. Annual program planned. The objective is to ensure the availability of areas supplying desired forest characteristics while maximizing current and future harvest opportunities. Identification of candidate areas for treatment requires species and / or biodiversity plans. Deer winter ranges have areas designated and plans in place. Under consideration for inclusion in this activity would be any approved goshawk Wildlife Habitat Areas. When initiated, biodiversity plans and Landscape Unit Planning will identify more potential treatment areas.

8. Juvenile spacing of dense stands, primarily to increase the proportion of Fd and Western red cedar (Cw). Another objective of this activity is to provide employment, principally for First Nations workers.

9. Additional treatments with positive financial return will be incorporated into plan when (if) identified.

Objective: Increase tree windfirmness to allow future harvest pattern flexibility and maximize harvest opportunity.

Planned activities.

1. Spacing and thinning of dense stands to increase windfirmness. Work planned every year. Target areas are those to be harvested under variable retention systems or commercially thinned; applicable particularly to:

- recreation areas,
- areas adjacent population centers,
- gullied terrain,
- areas with increased water quality emphasis such as riparian management zones, community watersheds and domestic water supplies,
- areas constrained for visual objectives, and
- other constrained areas.

The "buffer" strips adjacent park boundaries will be assessed in 2000 for implementation of this objective.

Studies.

Three studies are proposed:

1. To assess growth effect of individual tree fertilization. $6,000 to establish. $4,000 to assess (years 1 and 3 after establishment)

2. To document cost of treatment and yield effect of mechanical roadside fertilization in areas commercially thinned and areas harvested under variable retention systems. $6,000 to establish (repeat in second and third year), $1,500 to assess (years 1 and 3 after establishment)

3. To develop a model which will allow planners to accurately predict the age at which plantations will attain green up. The effects of various attributes such as species composition, elevation, aspect etc will be field tested and a computer model will be developed. It is estimated the project will cost a total of $20,000, and will take two years to implement.

Working Targets

1. Increase yields in short, medium and long term in direct proportion to area fertilized, rehabilitated, and brushed. All projects to yield a positive return on investment.

4. Develop stand structures that allow greater harvest flexibility in the medium and long term to support landscape, biodiversity, recreation, and water quality objectives.

TFL 46
SUSTAINABLE HARVEST ACTIVITY SUMMARY

Activities *	Objective *	Area/year **	Yield effect			Quality	Habitat effect			employment	cost	Rank
		(5 yr average)	Short	Medium	Long		OG	Riparian	Wildlife	(days/ha)	($/ha)	
Backlog Reforestation + Site Restoration	Investment 5	3			+					10.0	3500	2
Impeded Areas	Investment 4	30		+						3.8	1600	1
Stocking Control												
habitat	Investment 7	10		+	+		+		++	3.5	2000	2
intensively managed roadsides	Investment 6	10		+	+					3.0	800	2
windfirmness	Windfirmness 1	10		+	+		+	+	+	4.3	1600	2
spacing	Investment 8	70		+	+				+	5.0	2000	2
Fertilization												
mid rotation F (100% spaced)	Investment 1	920	++	++	+					0.1	260	1
intensively managed roadsides	Investment 2	30	++	++	+					2.0	300	1
spaced, brushed or pruned F stands	Investment 3	50	++	++	+					2.0	380	1

* refer to Resource Management Plan document, RECOMMENDED PROGRAM

** some activities are planned to be delivered within one or two years for efficiency, do not begin immediately, or increase gradually to target levels.

Norm Caldicott 28/07/2000

Agency: **TimberWest**
TFL: **TFL 46**
TSA:

Communication Log for the Sustainable Harvest Objective 2001-2002

Date	*Name*	*Representing*	*Communication Method*	*Comments/Issues*
17-Jul-00	Tom Jones	TFL HBO Operations	Meeting at Gordon River	Revised 2000/01 RMP
	Blair Pigeon	TFL HBO Operations		
	Dave Elstone	EBA Implementation Contractor		
	Norm Caldicott	TimberWest Vancouver Office		
########	Tom Jones	TFL HBO Operations	Phone conversation	Final edits to 2001/02 RMP
	Jack Turley	TimberWest Vancouver Office		

TFL 46
SUSTAINABLE HARVEST ACTIVITY SUMMARY

Activities *	Objective *	Area/year **	Yield effect			Quality	Habitat effect			employment	cost	Rank
		(5 yr average)	Short	Medium	Long		OG	Riparian	Wildlife	(days/ha)	($/ha)	
Backlog Reforestation + Site Restoration	Investment 5	3			+					10.0	3500	2
Impeded Areas	Investment 4	30		+						3.8	1600	1
Stocking Control												
habitat	Investment 7	10		+	+		+		++	3.5	2000	2
intensively managed roadsides	Investment 6	10		+	+					3.0	800	2
windfirmness	Windfirmness 1	10		+	+		+	+	+	4.3	1600	2
spacing	Investment 8	70		+	+				+	5.0	2000	2
Fertilization												
mid rotation F (100% spaced)	Investment 1	920	++	++	+					0.1	260	1
intensively managed roadsides	Investment 2	30	++	++	+					2.0	300	1
spaced, brushed or pruned F stands	Investment 3	50	++	++	+					2.0	380	1

* refer to Resource Management Plan document, RECOMMENDED PROGRAM

** some activities are planned to be delivered within one or two years for efficiency, do not begin immediately, or increase gradually to target levels.

SILVICULTURE HISTORY
TFL 46 (INCLUDING TFL 22)

Year	Logged	Planted	Fert	Juvenile Spaced	Pruned	Fires	Site Preperation	Brushed
1955	417	368						
1956	516	301						
1957	578	492						
1958	712	655						
1959	564	579						
1960	652	679						
1961	633	1255						
1962	708	1304						
1963	868	1003						
1964	881	1374						
1965	935	1675		13				
1966	902	2137		49				
1967	997	1851		58				
1968	1022	1484		83				
1969	923	1388		180				
1970	775	1580		183				
1971	772	1225		192				
1972	746	1133		210				
1973	904	1507		616				
1974	952	1508		643				
1975	596	993	223	540				
1976	1054	1418	255	1957				
1977	1088	1595	404	2739				
1978	1209	1472	764	2486				587
1979	1243	1331	1357	2650				494
1980	1187	1194	2021	1709				404
1981	1029	1734	2362	2126		26		214
1982	790	1593	3885	777				156
1983	690	787		1315	17			242
1984	992	931		200	128	102		276
1985	1112	1237		569	37		595	463
1986	802	404		628	25		18	129
1987	1279	995		941			238	380
1988								
1989	751	1534	9	66			208	
1990	540	229				1	263	
1991	695	1226					484	8
1992	408	225		260		3	40	158
1993	402	1351		640	10			34
1994	498	632		440	67	1	23	252
1995	382	1080					24	65
1996	388	1019	211	16		2		84
1997	414	769	104	51		1		62
1998	321	365	18	8				83
1999	443	288	27	109	21			61
Total	33770	47900	11640	22454	305	136	1893	4152
Average	768	1089	265	510	7	3	43	94

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** TFL 46

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

TFL 46
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1500	500	500	500	500	25.33	38000	1
Spacing	90	75	75	75	75	2000.00	180000	2
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	1000	80	80	80	80	280.00	280000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	2590	655	655	655	655	192.28	498,000	
Planning and prescriptions							40,000	1
Total dollars							538,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	10	10	10	10	10	2,000.00	20000	2
Totals hectares	10	10	10	10	10	1,999.80	20,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	1500	500	500	500	500	25.33	38,000	
Spacing	90	75	75	75	75	1,999.98	180,000	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	1000	80	80	80	80	280.00	280,000	
Other stand tending activities	10	10	10	10	10	1,999.20	20000	
Totals hectares	2600	655	655	655	655	199.23	518,000	
Planning and prescriptions							40,000	
Studies funding							12000	1
Total dollars							570,000	

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TFL 46
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	100	20	0	0	0	30.00	3000	2
Site preparation	3	3	0	0	0	800.00	2400	2
Planting	3	3	0	0	0	1,000.00	3000	2
Brushing	0	3	3	0	0	0.00	0	2
Totals hectares	106	29	3	0	0	79.24	8,400	
Seed purchase	3000	3000	0	0	0	0.67	2,000	2
Prescriptions and planning dollars							1,200	2
Total backlog reforestation							11,600	
Impeded areas								
Surveys	200	50	50	50	50	30.00	6000	1
Brushing	30	30	30	30	30	1,400.00	42000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	230	80	80	80	80	208.69	48,000	
Prescriptions and planning dollars							2,000	1
Total impeded areas							50,000	
Site Restoration								
Fill planting	0	0	0	0	0	#DIV/0!	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	2	2	2	2	2	1,250.00	2500	1
Totals hectares	2	2	2	2	2	1,249.38	2,500	
Seed purchase	1,600	1600	1600	1600	1600	0.63	1,000	1
Prescriptions and planning dollars							1,500	1
Total site restoration							5,000	
Backlog Program Activities - Management Unit Total								
Surveys	300	70	50	50	50	30.00	9000	
Site preparation	3	3	0	0	0	799.47	2400	
Planting	5	5	2	2	2	1,099.78	5500	
Brushing	30	33	33	30	30	1,399.91	42000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	338	111	85	82	82	174.26	58900	
Seed purchase	4600	4600	1600	1600	1600	0.65	3000	
Prescriptions and planning							4,700	
Recommended studies							0	
Total backlog program							66,600	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

TFL 46

Instructions for developing the Performance Measures Table for FRBC Investments

For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.
Potential volume/ha gain (m3/ha/yr) provincial factors:

0.77	0	0.25	0	1.9	0.25	0	0	0.46	

Years the factor will affect:

65	65	65	65	65	65	65	65	65	

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.
Provincial factors for estimated value gain at harvest

						7	20	2	

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.
Est. short term employment rate (person days/ha) provincial factors:

0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	5		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	5		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			1,500
Total backlog surveys from the backlog table.			300
33% of all silviculture surveys			594
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			594
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			0
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			0

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 10

TFL 46
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	5	0	594	3	5	30	90	0	1,000	1,737	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	250	0	9,653	0	618	488	0	0	30,000		41,008
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	1	0	59	3	10	78	356	0	180	174	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	2	0	1	1	5
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											10
5.3	Est. area with secondary value provided to biodiversity (ha)											10

TFL 46
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	2,600	655	655	655	655	199	518,000
Planning, prescriptions and seedlings							52,000
Backlog Program Field Activities	338	0	0	0	0	174	58,900
Planning, prescriptions and seedlings							7,700
Totals	2,938	655	655	655	655		636,600

Performance Measures

Potential total merchentable volume increment in 65 years	41,008 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	5 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	10 ha
Estimated area with secondary value provided to biodiversity	10 ha

Instructions

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c) Prepare a third set of tables for the overall Management Unit.
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The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Interfor TFL 54 Escalante Block

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Interfor TFL 54 Escalante Block
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	31	380	200	0	0	635.00	19685	2
Other	0	0	0	0	0	0.00	0	
Totals hectares	31	380	200	0	0	634.94	19,685	
Planning and prescriptions							2,000	2
Total dollars							21,685	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	0	0	0	0	0	#DIV/0!	0	
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	31	380	200	0	0	635.00	19,685	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	31	380	200	0	0	634.82	19,685	
Planning and prescriptions							2,000	
Studies funding							0	
Total dollars							21,685	

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Interfor TFL 54 Escalante Block
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	#DIV/0!	0	0
Planting	0	0	0	0	0	#DIV/0!	0	0
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	239	100	50	0.00	0	
Site preparation	1	0	0	0	0	1,000.00	1000	1
Planting	20	10	5	0	0	1,000.00	20000	1
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	21	10	244	100	50	999.90	21,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							21,000	
Impeded areas								
Surveys	0	0	0	0	0	0.00	0	
Brushing	300	100	50	0	0	1,350.00	405000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	300	100	50	0	0	1,349.99	405,000	
Prescriptions and planning dollars							5,000	1
Total impeded areas							410,000	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	239	100	50	0.00	0	
Site preparation	1	0	0	0	0	999.00	1000	
Planting	20	10	5	0	0	999.90	20000	
Brushing	300	100	50	0	0	1,349.99	405000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	321	110	294	100	50	1,327.07	426000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							5,000	
Recommended studies							0	
Total backlog program							431,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Interfor TFL 54 Escalante Block
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	20		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	20		
B Nursery production of seedlings			
Enter sowing requests from SPAR		0	
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			0
Total backlog surveys from the backlog table.			0
33% of all silviculture surveys			0
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			289
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 289
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			0
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			10
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			0

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Interfor TFL 54 Escalante Block
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	20	0	0	1	20	300	0	0	31	372	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	1,001	0	0	0	2,470	4,875	0	0	930		9,276
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			10								10
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	2	0	0	1	40	783	0	0	6	37	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	4	0	0	0	0	5
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

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Interfor TFL 54 Escalante Block
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	31	380	200	0	0	635	19,685
Planning, prescriptions and seedlings							2,000
Backlog Program Field Activities	321	0	0	0	0	1,327	426,000
Planning, prescriptions and seedlings							5,000
Totals	352	380	200	0	0		452,685

Performance Measures

Potential total merchentable volume increment in 65 years	9,276 m^3
Estimated ha that will be reclassified as stocked	10 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	5 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

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a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** TFL 57 - Weyerhaeuser Company Ltd.

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

TFL 57 - Weyerhaeuser Company Ltd.
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	800	1000	600	600	500	27.50	22000	1
Spacing	0	50	50	50	50	0.00	0	2
Pruning	0	0	0	45	47	0.00	0	
Fertilizing	300	300	250	200	100	440.00	132000	2
Other	0	0	0	50	50	0.00	0	
Totals hectares	1100	1350	900	945	747	140.00	154,000	
Planning and prescriptions							12,000	1
Total dollars							166,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	800	1000	600	600	500	27.50	22,000	
Spacing	0	50	50	50	50	0.00	0	
Pruning	0	0	0	45	47	0.00	0	
Fertilizing	300	300	250	200	100	440.00	132,000	
Other stand tending activities	0	0	0	50	50	0.00	0	
Totals hectares	1100	1350	900	895	697	140.00	154,000	
Planning and prescriptions							12,000	
Studies funding							0	
Total dollars							166,000	

12/28/2005

TFL 57 - Weyerhaeuser Company Ltd.
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	2000	1000	750	500	500	25.00	50000	1
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	350	250	150	50	50	1,320.00	462000	1
Totals hectares	2350	1250	900	550	550	217.87	512,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							33,600	1
Total backlog reforestation							545,600	
Impeded areas								
Surveys	100	100	0	0	0	25.00	2500	2
Brushing	100	50	0	0	0	1,320.00	132000	2
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	200	150	0	0	0	672.50	134,500	
Prescriptions and planning dollars							9,600	2
Total impeded areas							144,100	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	50	50	50	50	50	2,860.00	143000	1
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	50	50	50	50	50	2,859.89	143,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							13,000	1
Total site restoration							156,000	
Backlog Program Activities - Management Unit Total								
Surveys	2100	1100	750	500	500	25.00	52500	
Site preparation	50	50	50	50	50	2,859.89	143000	
Planting	0	0	0	0	0	0.00	0	
Brushing	450	300	150	50	50	1,320.00	594000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	2600	1450	950	600	600	303.65	789500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							56,200	
Recommended studies							0	
Total backlog program							845,700	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 57 - Weyerhaeuser Company Ltd.
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.50	0	0.5	0	2.0	0.5	0	0	0.50	
Years the factor will affect:	70	70	70	70	70	70	70	70	10	
Provincial factors for estimated value gain at harvest							2	2	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.
Potential volume/ha gain (m3/ha/yr) provincial factors:

Years the factor will affect:

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.
Provincial factors for estimated value gain at harvest

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.
Est. short term employment rate (person days/ha) provincial factors:

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			800
Total backlog surveys from the backlog table			2,100
33% of all silviculture surveys			957
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			957
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			0
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			750

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 0

TFL 57 - Weyerhaeuser Company Ltd.
Performance Measures Based on Activities Planned for 2001/2002
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	957	50	0	450	0	0	300	1,757	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.50	0	0.5	0	2.0	0.5	0	0	0.50		
1.2	Years the factor will apply	70	70	70	70	70	70	70	70	10		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	33,495	0	1	15,750	0	0	1,500		50,746
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			750								750
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							2	2	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	96	48	0	1,175	0	0	54	176	
3.3	Estimated total full time equivalent positions (FTE)	0	0	1	0	0	7	0	0	0	1	9
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

TFL 57 - Weyerhaeuser Company Ltd.
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	1,100	1,350	900	895	697	140	154,000
Planning, prescriptions and seedlings							12,000
Backlog Program Field Activities	2,600	0	0	0	0	304	789,500
Planning, prescriptions and seedlings							56,200
Totals	3,700	1,350	900	895	697		1,011,700

Performance Measures

Potential total merchentable volume increment in 65 years	50,746 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	750 ha
Estimated total full time equivalent positions generated	9 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Squamish Forest District Roll UP (Combined TFL/TSA)

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Squamish Forest District Roll UP (Combined TFL/TSA)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys						#DIV/0!		
Spacing						#DIV/0!		
Pruning						#DIV/0!		
Fertilizing						#DIV/0!		
Other						#DIV/0!		
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Planning and prescriptions								
Total dollars							0	
Forest Health Enhancement								
Spacing						#DIV/0!		
Pruning						#DIV/0!		
Other treatments						#DIV/0!		
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments						#DIV/0!		
Non-riparian treatments						#DIV/0!		
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Domestic Range								
Treatments						#DIV/0!		
Enhanced Forestry Activities - Management Unit Total								
Surveys	0	0	0	0	0	#DIV/0!	0	
Spacing	0	0	0	0	0	#DIV/0!	0	
Pruning	0	0	0	0	0	#DIV/0!	0	
Fertilizing	0	0	0	0	0	#DIV/0!	0	
Other stand tending activities	0	0	0	0	0	#DIV/0!	0	
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Planning and prescriptions							0	
Studies funding								
Total dollars							0	

Squamish Forest District Roll UP (Combined TFL/TSA)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys						#DIV/0!		
Site preparation						#DIV/0!		
Planting						#DIV/0!		
Brushing						#DIV/0!		
Max. density spacing						#DIV/0!		
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Seed purchase						#DIV/0!		
Total legal obligations							0	
Backlog Reforestation								
Surveys						#DIV/0!		
Site preparation						#DIV/0!		
Planting						#DIV/0!		
Brushing						#DIV/0!		
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Seed purchase						#DIV/0!		
Prescriptions and planning dollars								
Total backlog reforestation							0	
Impeded areas								
Surveys						#DIV/0!		
Brushing						#DIV/0!		
Density spacing						#DIV/0!		
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Prescriptions and planning dollars								
Total impeded areas							0	
Site Restoration								
Fill planting						#DIV/0!		
Rehabilitation						#DIV/0!		
Reforestation						#DIV/0!		
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Seed purchase						#DIV/0!		
Prescriptions and planning dollars								
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	#DIV/0!	0	
Planting	0	0	0	0	0	#DIV/0!	0	
Brushing	0	0	0	0	0	#DIV/0!	0	
Density spacing	0	0	0	0	0	#DIV/0!	0	
Totals hectares	0	0	0	0	0	#DIV/0!	0	
Seed purchase	0	0	0	0	0	#DIV/0!	0	
Prescriptions and planning							0	
Recommended studies							#REF!	
Total backlog program							#REF!	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Squamish Forest District Roll UP (Combined TFL/TSA)
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	**Nursery Seedling Production**	**Silviculture Surveys**
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			0
Total backlog surveys from the backlog table.			0
33% of all silviculture surveys			0
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply			0
Replace with (A) if a more exact estimate is calculated			
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)			
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)			
Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Squamish Forest District Roll UP (Combined TFL/TSA)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	0	0	0	0	0	0	0	0	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	0	0	0	0	0	0	0		0
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	0	0	0	0	0	0	0	0	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	0	0	0	0	0
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

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Squamish Forest District Roll UP (Combined TFL/TSA)
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	0	0	0	0	0	#DIV/0!	0
Planning, prescriptions and seedlings							0
Backlog Program Field Activities	0	0	0	0	0	#DIV/0!	0
Planning, prescriptions and seedlings							#REF!
Totals	0	0	0	0	0		#REF!

Performance Measures

Potential total merchentable volume increment in 65 years	0 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	0 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

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The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Squamish Forest District Soo TSA

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Squamish Forest District Soo TSA
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	2400	2400	2400	2400	2400	62.50	150000	2
Spacing	1200	1200	1200	1200	1200	1300.00	1560000	2
Pruning	150	150	150	150	150	2000.00	300000	3
Fertilizing	1400	1400	1400	1400	1400	250.00	350000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	5150	5150	5150	5150	5150	458.25	2,360,000	
Planning and prescriptions							0	
Total dollars							2,360,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	14	0	0	0	0	2,786.07	39005	3
Totals hectares	14	0	0	0	0	2,785.87	39,005	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	2400	2400	2400	2400	2400	62.50	150,000	
Spacing	1200	1200	1200	1200	1200	1,300.00	1,560,000	
Pruning	150	150	150	150	150	1,999.99	300,000	
Fertilizing	1400	1,400	1,400	1,400	1,400	250.00	350,000	
Other stand tending activities	14	0	0	0	0	2,785.28	39005	
Totals hectares	5164	5150	5150	5150	5150	464.56	2,399,005	
Planning and prescriptions							0	
Studies funding							25000	
Total dollars							2,424,005	

12/28/2005

SOO TSA

Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Legal Obligations	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	400	400	400	400	400	50.00	20000	1
Site preparation	0	0	0	0	0	0.00	0	
Planting	30	30	30	30	30	1,200.00	36000	1
Brushing	30	30	30	30	30	1,250.00	37500	1
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	460	460	460	460	460	203.26	93,500	
Seed purchase	30	30	30	30	30	10.00	300	1
Total legal obligations							93,800	
Backlog Reforestation								
Surveys	300	300	300	300	300	60.00	18000	1
Site preparation	25	25	25	25	25	700.00	17500	1
Planting	50	50	50	50	50	1,200.00	60000	1
Brushing	50	50	50	50	50	1,250.00	62500	1
Totals hectares	425	425	425	425	425	371.76	158,000	
Seed purchase	50	50	50	50	50	10.00	500	1
Prescriptions and planning dollars							0	
Total backlog reforestation							158,500	
Impeded areas								
Surveys	900	900	900	900	900	70.00	63000	1
Brushing	100	100	100	100	100	1,250.00	125000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1000	1000	1000	1000	1000	188.00	188,000	
Prescriptions and planning dollars							0	
Total impeded areas							188,000	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	1600	1600	1600	1600	1600	63.13	101000	
Site preparation	25	25	25	25	25	699.94	17500	
Planting	80	80	80	80	80	1,199.97	96000	
Brushing	180	180	180	180	180	1,250.00	225000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1885	1885	1885	1885	1885	233.16	439500	
Seed purchase	80	80	80	80	80	10.00	800	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							440,300	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Squamish Forest District   Soo TSA
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

Area		
Tree Improvement	Nursery Seedling Production	Silviculture Surveys

A Tree Improvement
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002

Backlog area planted from backlog table	80
Enter area of all other sites planted with improved trees	
Total area affected by tree improvement	80

B Nursery production of seedlings
Enter sowing requests from SPAR

C Silviculture surveys
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.
These potentially provide improved estimates of site productivity and operational yield adjustment factors

Total EFP surveys from the EFP table	2,400
Total backlog surveys from the backlog table.	1,600
33% of all silviculture surveys	1,320

Optionally, you may provide a more exact estimate:

Estimate area of regen delay surveys	
Estimate area of free growing surveys	
Estimate area of pre-stand tending surveys	
Estimate of total surveys that will affect timber supply	(A) 0

Surveyed area that will affect timber supply 1,320
Replace with (A) if a more exact estimate is calculated

Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002

Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)
Estimate area that will be classified as free growing after a survey in 2001/2002

Habitat Supply
Help staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Squamish Forest District Soo TSA
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	80	0	1,320	25	80	180	1,200	150	1,400	4,449	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	4,004	0	21,450	0	9,880	2,925	0	0	42,000		80,259
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	8	0	132	24	160	470	4,752	681	252	445	
3.3	Estimated total full time equivalent positions (FTE)	0	0	1	0	1	3	26	4	1	2	38
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											14
5.3	Est. area with secondary value provided to biodiversity (ha)											0

Squamish Forest District Soo TSA
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	5,164	5,150	5,150	5,150	5,150	465	2,399,005
Planning, prescriptions and seedlings							25,000
Backlog Program Field Activities	1,885	0	0	0	0	233	439,500
Planning, prescriptions and seedlings							800
Totals	7,049	5,150	5,150	5,150	5,150		2,864,305

Performance Measures

Potential total merchentable volume increment in 65 years	80,259 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	38 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	14 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

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This set of tables has and will continue to evolve based on client recommendations for improvement. The template design allows completion in a consistent format for all management units across the province. Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** TFL 38

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

TFL 38
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	166	125	100	0	0	30.12	5000	3
Spacing	65	65	65	65	65	1769.23	115000	1
Pruning	50	50	50	50	50	3000.00	150000	2
Fertilizing	0	0	0	0	0	0.00	0	
Other	0	0	0	0	0	0.00	0	
Totals hectares	281	240	215	115	115	960.85	270,000	
Planning and prescriptions							0	
Total dollars							270,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0	#DIV/0!	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	166	125	100	0	0	30.12	5,000	
Spacing	65	65	65	65	65	1,769.20	115,000	
Pruning	50	50	50	50	50	2,999.94	150,000	
Fertilizing	0	0	0	0	0	0.00	0	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	281	240	215	115	115	960.83	270,000	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							270,000	

12/28/2005

TFL 38
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	50	75	75	50	50	45.00	2250	3
Site preparation	0	0	0	0	0	0.00	0	
Planting	10	10	10	10	10	700.00	7000	1
Brushing	50	50	40	40	30	1,700.00	85000	1
Totals hectares	110	135	125	100	90	856.81	94,250	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							94,250	
Impeded areas								
Surveys	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	50	75	75	50	50	45.00	2250	
Site preparation	0	0	0	0	0	0.00	0	
Planting	10	10	10	10	10	699.79	7000	
Brushing	50	50	40	40	30	1,699.93	85000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	110	135	125	100	90	856.73	94250	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							94,250	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

TFL 38
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
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Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							10	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	8	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	**Nursery Seedling Production**	**Silviculture Surveys**
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002	10		
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees	10		
Total area affected by tree improvement			
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			166
Total EFP surveys from the EFP table			50
Total backlog surveys from the backlog table.			71
33% of all silviculture surveys			
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			(A) 0
Estimate of total surveys that will affect timber supply			
Surveyed area that will affect timber supply			71
Replace with (A) if a more exact estimate is calculated			
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)			40
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted la be brought to free growing status (impeded areas)			
Estimate area that will be classified as free growing after vey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

TFL 38

Performance Measures Based on Activities Planned for 2001/2002

Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	10	0	71	0	10	50	65	50	0	256	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	501	0	1,158	0	1,235	813	0	0	0		3,707
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			40								40
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							10	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	8	0.18	0.1	
3.2	Estimated total employment (person days/year)	1	0	7	0	20	131	257	400	0	26	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	1	1	2	0	0	5
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

TFL 38
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	281	240	215	115	115	961	270,000
Planning, prescriptions and seedlings							0
Backlog Program Field Activities	110	0	0	0	0	857	94,250
Planning, prescriptions and seedlings							0
Totals	391	240	215	115	115		364,250

Performance Measures

Potential total merchentable volume increment in 65 years	3,707 m^3
Estimated ha that will be reclassified as stocked	40 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	5 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

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Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

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c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

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1) **Type the Management Unit name here:** Strathcona TSA

2) Enter Data into the enhanced forestry table and the backlog program table

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Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
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12/28/2005

Strathcona TSA
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities

Stand Tending

Stand Tending	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	3000	3000	3000	3000	3000	42.50	127500	1
Spacing	500	500	500	400	400	2400.00	1200000	2
Pruning	250	250	150	100	100	2400.00	600000	2
Fertilizing	1500	2000	2000	2000	2000	300.00	450000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	5250	5750	5650	5500	5500	452.86	2,377,500	
Planning and prescriptions							100,000	1
Total dollars							2,477,500	

Forest Health Enhancement

Forest Health Enhancement	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Habitat Supply and Biodiversity Enhancement	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	50	50	50	50	50	2,000.00	100000	3
Totals hectares	50	50	50	50	50	1,999.96	100,000	

Domestic Range

Domestic Range	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Enhanced Forestry Activities - Management Unit Total	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	3000	3000	3000	3000	3000	42.50	127,500	
Spacing	500	500	500	400	400	2,400.00	1,200,000	
Pruning	250	250	150	100	100	2,399.99	600,000	
Fertilizing	1500	2,000	2,000	2,000	2,000	300.00	450,000	
Other stand tending activities	50	50	50	50	50	1,999.84	100000	
Totals hectares	5300	5750	5650	5500	5500	467.45	2,477,500	
Planning and prescriptions							100,000	
Studies funding							0	
Total dollars							2,577,500	

12/28/2005

Strathcona TSA
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys					0	#DIV/0!		1
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing			0	0	0	#DIV/0!	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	1000	800	500	0	0	35.00	35000	1
Brushing	100	100	100	0	0	2,000.00	200000	2
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1100	900	600	0	0	213.64	235,000	
Prescriptions and planning dollars							5,000	1
Total impeded areas							240,000	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	1000	800	500	0	0	35.00	35000	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	100	100	100	0	0	1,999.98	200000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1100	900	600	0	0	213.63	235000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							5,000	
Recommended studies							0	
Total backlog program							240,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Strathcona TSA
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8806.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preperation	Backlog Plant	Brush	Space	Prune	Fertilise	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			3,000
Total backlog surveys from the backlog table.			1,000
33% of all silviculture surveys			1,320
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			1,320
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Help staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Strathcona TSA
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	1,320	0	0	100	500	250	1,500	3,720	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	21,450	0	0	1,625	0	0	45,000		68,076
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	132	0	0	261	1,980	1,135	270	372	
3.3	Estimated total full time equivalent positions (FTE)	0	0	1	0	0	1	11	6	2	2	23
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											56
5.3	Est. area with secondary value provided to biodiversity (ha)											0

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Strathcona TSA
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	5,300	5,750	5,650	5,500	5,500	467	2,477,500
Planning, prescriptions and seedlings							100,000
Backlog Program Field Activities	1,100	0	0	0	0	214	235,000
Planning, prescriptions and seedlings							5,000
Totals	6,400	5,750	5,650	5,500	5,500		2,817,500

Performance Measures

Potential total merchentable volume increment in 65 years	68,076 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	23 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	50 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement. The template design allows completion in a consistent format for all management units across the province. Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Sunshine Coast Forest District Roll UP (TSA and TFL combined)

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

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Sunshine Coast Forest District Roll UP (TSA and TFL combined)
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1300	1800	1300	1300	1300	66.92	87000	
Spacing	1250	1250	1250	1250	1250	1712.00	2140000	
Pruning	1015	680	680	1030	680	2100.74	2132250	
Fertilizing	1200	400	800	400	800	330.00	396000	
Other	0	0	0	0	0	0.00	0	
Totals hectares	4765	4130	4030	3980	4030	997.95	4,755,250	
Planning and prescriptions							4,000	
Total dollars							4,759,250	

Forest Health Enhancement

Spacing	60	60	50	50	50	6,000.00	360000	
Pruning	30	30	30	30	30	400.00	12000	
Other treatments	190	190	190	190	190	500.00	95000	
Totals hectares	280	280	270	270	270	1,667.86	467,000	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	20	20	20	20	20	2,350.00	47000	
Non-riparian treatments	20	20	20	20	20	1,700.00	34000	
Totals hectares	40	40	40	40	40	2,025.00	81,000	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	1300	1800	1300	1300	1300	66.92	87,000	
Spacing	1310	1310	1300	1300	1300	1,908.40	2,500,000	
Pruning	1045	710	710	1060	710	2,051.91	2,144,250	
Fertilizing	1200	400	800	400	800	330.00	396,000	
Other stand tending activities	230	230	230	230	230	765.21	176000	
Totals hectares	5085	4220	4110	4060	4110	1,042.92	5,303,250	
Planning and prescriptions							4,000	
Studies funding							40000	
Total dollars							5,347,250	

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Sunshine Coast Forest District Roll UP (TSA and TFL combined)
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	30	30	30	30	30	999.97	30000	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	30	30	30	30	30	999.87	30,000	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							30,000	
Backlog Reforestation								
Surveys	450	450	450	200	200	25.00	11250	
Site preparation	0	0	0	0	0	0.00	0	
Planting	35	10	10	10	10	1,171.43	41000	
Brushing	40	20	20	0	0	999.98	40000	
Totals hectares	525	480	480	210	210	175.71	92,250	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							9,000	
Total backlog reforestation							101,250	
Impeded areas								
Surveys	500	300	100	50	0	75.00	37500	
Brushing	200	200	100	25	0	1,800.00	360000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	700	500	200	75	0	567.86	397,500	
Prescriptions and planning dollars							0	
Total impeded areas							397,500	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	40	40	20	20	0	2,999.93	120000	
Reforestation	40	40	20	20	0	1,099.97	44000	
Totals hectares	80	80	40	40	0	2,049.92	164,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							164,000	
Backlog Program Activities - Management Unit Total								
Surveys	950	750	550	250	200	51.32	48750	
Site preparation	40	40	20	20	0	2,999.78	120000	
Planting	75	50	30	30	10	1,133.29	85000	
Brushing	270	250	150	55	30	1,592.58	430000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	1335	1090	750	355	240	512.17	683750	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							9,000	
Recommended studies							50,000	
Total backlog program							742,750	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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TFL 39 - Sunshine Coast District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	300	300	300	300	300	40.00	12000	1
Spacing	50	50	50	50	50	2000.00	100000	2
Pruning	15	30	30	30	30	2150.00	32250	2
Fertilizing	400	400	400	400	400	290.00	116000	1
Other	0	0	0	0	0		0	
Totals hectares	765	780	780	780	780	340.20	260,250	
Planning and prescriptions							4,000	1
Total dollars							264,250	

Forest Health Enhancement

Spacing	20	20	20	20	20	2000.00	40000	2
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	20	20	20	20	20	2000.00	40,000	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	10	10	10	10	10	3000.00	30000	2
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	10	10	10	10	10	3000.00	30,000	

Domestic Range

Treatments	0	0	0	0	0		0	

Enhanced Forestry Activities - Management Unit Total

Surveys	300	300	300	300	300	40.00	12,000	
Spacing	70	70	70	70	70	2000.00	140,000	
Pruning	15	30	30	30	30	2150.00	32,250	
Fertilizing	400	400	400	400	400	290.00	116,000	
Other stand tending activities	10	10	10	10	10	3000.00	30,000	
Totals hectares	795	810	810	810	810	415.41	330,250	
Planning and prescriptions							4,000	
Studies funding	(Elk, Ba Wooly Aphid, Cw Browsing)						40000	1
Total dollars							374,250	

TFL 39 - Sunshine Coast District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	30	30	30	30	30	1,000.00	30000	1
Max. density spacing	0	0	0	0	0		0	
Totals hectares	30	30	30	30	30	1,000.00	30,000	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							30,000	
Backlog Reforestation								
Surveys	450	450	450	200	200	25.00	11250	1
Site preparation	0	0	0	0	0		0	
Planting	10	10	10	10	10	1,100.00	11000	1
Brushing	40	20	20	0	0	1,000.00	40000	1
Totals hectares	500	480	480	210	210	124.50	62,250	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							9,000	1
Total backlog reforestation							71,250	
Impeded areas								
Surveys		0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	40	40	20	20	0	3,000.00	120000	1
Reforestation	40	40	20	20	0	1,100.00	44000	1
Totals hectares	80	80	40	40	0	2,050.00	164,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							164,000	
Backlog Program Activities - Management Unit Total								
Surveys	450	450	450	200	200	25.00	11250	
Site preparation	40	40	20	20	0	3,000.00	120000	
Planting	50	50	30	30	10	1,100.00	55000	
Brushing	70	50	50	30	30	1,000.00	70000	
Density spacing	0	0	0	0	0		0	
Totals hectares	610	590	550	280	240	420.08	256250	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							9,000	
Recommended studies	(herbicide & manual treatment studies)						25,000	1
Total backlog program							290,250	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Sunshine Coast Forest District Roll UP (TSA and TFL combined)
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.
Potential volume/ha gain (m3/ha/yr) provincial factors:

0.77	0	0.25	0	1.9	0.25	0	0	0.46	

Years the factor will affect:

65	65	65	65	65	65	65	65	65	

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.
Provincial factors for estimated value gain at harvest

						7	20	2	

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.
Est. short term employment rate (person days/ha) provincial factors:

0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	75		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	75		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			1,300
Total backlog surveys from the backlog table.			950
33% of all silviculture surveys			743
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply		(A)	0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			743
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Sunshine Coast Forest District Roll UP (TSA and TFL combined)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	75	0	743	40	75	270	1,310	1,045	1,200	4,988	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.0	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	3,754	0	12,066	0	9,263	4,388	0	0	36,000		65,470
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	8	0	74	38	150	705	5,188	4,744	216	499	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	1	4	29	26	1	3	65
4.1	**Forest Health Enhancement (ha)**											280
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											40
5.3	Est. area with secondary value provided to biodiversity (ha)											0

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Sunshine Coast Forest District Roll UP (TSA and TFL combined)
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	75	0	743	40	75	270	1,310	1,045	1,200	4,988	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	3,754	0	12,066	0	9,263	4,388	0	0	36,000		65,470
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	8	0	74	38	150	705	5,188	4,744	216	499	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	1	4	29	26	1	3	65
4.1	**Forest Health Enhancement (ha)**											280
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											40
5.3	Est. area with secondary value provided to biodiversity (ha)											0

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Sunshine Coast RMP Process and Regime Table Justification
2001/2002

Resource Management Plan (RMP) meetings were held with all the major licensees operating in the Sunshine Coast Forest district. During these meetings the previous years RMP was reviewed and discussed to identify what changes were needed for completing this years RMP. All licensees were supportive of following a similar activity regime as the one identified in the 1999 RMP. It was agreed that the districts highest priority was the elimination of all backlog reforestation blocks and that funding must be directed to these activities before funding any enhanced projects. The enhanced program for this year's plan follows last years in focussing on trying to improve the value of selected biological suitable stands through pruning and spacing. This year's plan also identifies the opportunity for a relatively large fertilizer program targeted at increasing stand volume at final rotation. Forest health activities including bridge tree removal in root disease areas, white pine pruning to control Blister Rust , and surveying and assessing immature stands for forest health agents continues to be important activities for the future.

All licensees agreed with the proposed activity ranking and regime table for this years RMP. They also support the recommendations included in the Type 1 analysis completed two years ago for this TSA. Backlog and enhanced activity plans for next year's program were reviewed with each licensee in order to identify treatment plans and priorities for next year. The focus in the backlog program will be in completing free to grow surveys and conducting backlog brushing treatments. In the enhanced program the emphasis will be on juvenile spacing low to mid elevation douglas fir stands and following through with first and second lift pruning treatments. Many of our second lift pruning projects are now ready for second lift treatments and funding must be directed to these projects or the treatment opportunity will be lost. If funding is available fertilization will be targeted on larger blocks of area where historic spacing and pruning has been completed.

Sunshine Coast TSA
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1000	1500	1000	1000	1000	75.00	75000	1
Spacing	1200	1200	1200	1200	1200	1700.00	2040000	1
Pruning	1000	650	650	1000	650	2100.00	2100000	1
Fertilizing	800	0	400	0	400	350.00	280000	2
Other	0	0	0	0	0	0.00	0	
Totals hectares	4000	3350	3250	3200	3250	1123.75	4,495,000	
Planning and prescriptions							0	
Total dollars							4,495,000	
Forest Health Enhancement								
Spacing	40	40	30	30	30	8,000.00	320000	1
Pruning	30	30	30	30	30	400.00	12000	1
Other treatments	190	190	190	190	190	500.00	95000	1
Totals hectares	260	260	250	250	250	1,642.31	427,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	10	10	10	10	10	1,700.00	17000	2
Non-riparian treatments	20	20	20	20	20	1,700.00	34000	2
Totals hectares	30	30	30	30	30	1,700.00	51,000	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	1000	1500	1000	1000	1000	75.00	75,000	
Spacing	1240	1240	1230	1230	1230	1,903.23	2,360,000	
Pruning	1030	680	680	1030	680	2,050.49	2,112,000	
Fertilizing	800	0	400	0	400	350.00	280,000	
Other stand tending activities	220	220	220	220	220	663.63	146000	
Totals hectares	4290	3420	3310	3260	3310	1,159.21	4,973,000	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							4,973,000	

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Sunshine Coast TSA
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	25	0	0	0	0	1,200.00	30000	1
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	25	0	0	0	0	1,199.86	30,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							30,000	
Impeded areas								
Surveys	500	300	100	50	0	75.00	37500	1
Brushing	200	200	100	25	0	1,800.00	360000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	700	500	200	75	0	567.86	397,500	
Prescriptions and planning dollars							0	
Total impeded areas							397,500	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	500	300	100	50	0	75.00	37500	
Site preparation	0	0	0	0	0	0.00	0	
Planting	25	0	0	0	0	1,199.86	30000	
Brushing	200	200	100	25	0	1,799.98	360000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	725	500	200	75	0	589.65	427500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							0	
Recommended studies							25,000	1
Total backlog program							452,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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Sunshine Coast TSA
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	25		
Enter area of all other sites planted with improved trees	25		
Total area affected by tree improvement	50		
B Nursery production of seedlings			
Enter sowing requests from SPAR		25	
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			1,000
Total backlog surveys from the backlog table.			500
33% of all silviculture surveys			495
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			0
Estimate area of free growing surveys			500
Estimate area of pre-stand tending surveys			1,000
Estimate of total surveys that will affect timber supply		(A)	1,500
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			1,500
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			0
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			300

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 30

Appendix 9 Silviculture Regimes and Investment Priorities for SCFD

The following table indicates incremental silviculture regimes which are suitable to attaining the above working targets and strategies

Regime Table, Sunshine Coast TSA, July 2000

	ha/yr	Timber Supply Effects Short	Medium	Long	Quality	Habitat OG	Rip	Wlife	Direct Silv Jobs Days/ ha	Cost $/ha	Rank (1,2,3)
1.Backlog Brushing	200	0 A+	A+		0	0	0	0	2	1500	1
Backlog Planting	25	0	A+	A+	0				2	1200	1
Backlog Surveys	500	0	-	-	0				.03	50	1
2. Spacing @15-20yrs											
M-G FHC low elevation - 600-700 sph	600	0	+	-	++	+	+	+	5	1700	2
M-G FHC mid elevation - 600-700 sph	400	0 -	+		++	+ +	+		5	1700	2
M-G HCB mid- upper elevation- 600-700sph	200	0	+	-	++	+ +	+		5	1700	3
3. Pruning											
. FH low -mid elevation (previously spaced) - all stems, 1st lift to 3.1 m	700	0	0	0	+++	0 +			6	1800	3
. all stems, 2nd lift to 5.5-6.0 m	300	0	0	0	+++	0		+	8	2500	2
4. Fertilization											
M-G FHC spaced	800	0	++	++	0	+		0	.1	350	4
CT'ed stands		+			0	+		0	.1	350	4
5..Health-bridge tree removal, white pine operational trails ,treatments and surveys .	766	0	+	+		0	0	0	1	203	4

Notes

1 A-type timber supply effects are incorporated in the TSR base case

B type timber supply effects are incremental to the TSR base case

2 General Ranking: H =1 & 2; M = 3; L = 4 & 5

Sunshine Coast TSA
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	4,290	3,420	3,310	3,260	3,310	1,159	4,973,000
Planning, prescriptions and seedlings							0
Backlog Program Field Activities	725	0	0	0	0	590	427,500
Planning, prescriptions and seedlings							25,000
Totals	5,015	3,420	3,310	3,260	3,310		5,425,500

Performance Measures

Potential total merchentable volume increment in 65 years	57,216 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	300 ha
Estimated total full time equivalent positions generated	61 FTEs
Forest health enhancement area	260 ha
Planned area for specific wildlife forage or habitat maintenance	30 ha
Estimated area with secondary value provided to biodiversity	30 ha

Western Forest Products Limited TFL 19
Sustainable Harvest Component of Campbell River Forest District Resource Management Plan

Index

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- Age Class Profiles
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INTRODUCTION

This document is submitted in response to the Ministry of Forests and Ministry of Environment's request for a Resource Management Plan (RMP) to outline Forest Renewal B. C. (FRBC) funded silviculture programs. This information is drawn from Management Plan 8 for TFL 19 and addresses TFL 19 needs.

1.0) BASIC DATA

Administrative Information:

TFL 19 is located on the west coast of Vancouver Island in the vicinity of Nootka Sound. It is located 80 km west of Campbell River.

The communities of Gold River, Tahsis, and Zeballos are dependent on the economic activities generated from TFL 19. Logging operations are conducted from Gold River, Zeballos, and several camps located throughout the Nootka Sound area. A sawmill in Tahsis is dependent on logs generated from these logging operations. Fibre from TFL 19 helped supply the needs of a pulp mill in Gold River until it closed in February 1999.

Land Area

TFL 19 covers 192,551 ha broken down as follows: 145,535 ha productive forest (currently operable – 101,015 ha) and 47,016 ha non forest or alpine.

The forests lie within the wetter maritime coastal western hemlock biogeoclimatic zone with annual precipitation levels reaching 3,000 to 5,000 mm. The dominant timber species is western hemlock mixed with varying amounts of amabilis fir, Douglas-fir, western red cedar, and lesser amounts of sitka spruce, yellow cedar, and mountain hemlock.

Annual Allowable Cut and Harvest Forecast

The current (1997 – 2001) annual allowable cut is 978,000 m^3.

Depending on the options chosen, the current timber supply analysis indicates that the long run sustainable yield (over the next 50 years will be between 802,000 m^3 and 847,000 m^3.

Site Class Profile

There are 13 forest types within the TFL that have been divided into good, medium and poor sites for timber supply modelling purposes. The site classes (Breast Height 50 yrs) are shown below:

Site Class	Site Indices (m at BH 50)
Good	32.5+
Medium	22.5 – 32.4
Poor	12.5 – 22.4

Age Class Profile

Based on a 1991 inventory the table below summarizes the approximate age classes within TFL 19.

Age Class	Years	Estimated area (ha)	Percentage of land base (%)
1	1 - 20	20,854	14
2	21 - 40	9,038	6
3	41 - 60	2,073	1
4	61 - 80	9,747	6
5	81 - 100	5,457	4
6	101 - 120	541	<1
7	121 - 140	1,320	1
8 & 9	141 +	104,153	67
NSR/NCBR		905	<1
TOTAL		154,088	100

Species Profile

Based on a 1991 inventory the table below summarizes the approximate species within TFL 19.

Species	Percent	Species	Percent
Hw	46	Ss	0.5
Ba	17	Pl	0.3
Fd	13	Pw	0.2
Yc	12		
Cw	11		

2.0) TIMBER SUPPLY ISSUES

2.1) TIMBER QUANTITY

The amount of timber available to harvest within TFL 19 depends on several factors, including but not limited to: the Forest Practices Code (restrictions with regard to harvesting within riparian areas, green up requirements, block size requirements, etc.), the visual landscape analysis, ungulate winter ranges, harvesting operability limits, among others.

Opportunities to Increase Timber Quantity

The underlying rationale for an incremental program on TFL 19 is to improve the yield, and quality from the regenerated stands and to compensate for the forest age class imbalance by treatments that will increase the timber supply availability in 40 to 60 years. Incremental silviculture treatments will consist of genetic improvement, juvenile spacing, commercial thinning, pruning, and fertilization.

Benefits sought from an incremental program will be: increase in timber stand value, improvement in volume yield, shortened rotation ages, enhanced biodiversity capability, improved security and thermal cover for wildlite, and creation of local forestry employment opportunities.

Second growth stands are currently targeted for maximum fibre production in smaller diameter sawlogs, on a 60 to 100 year rotation.

Potential Treatments to Increase Timber Quantity

Planting with Genetically Improved Stock: All areas harvested in TFL 19 are usually reforested within one year of harvest. Areas are planted with genetically improved seedlings when available. All Fd and most of the Hw seedlings planted in TFL19 are from genetically improved seed with anticipated gains in volume yields from 9% in Fd and 7.5% in Hw. There are no (or very little) areas of backlog reforestation required within TFL 19.

Juvenile spacing: Stands will be assessed for potential spacing where stands exhibit competition for growing space. Potential candidate stands for juvenile spaced should have the following attributes:

1). Densities greater than 3,000 sph
2). Hw,Fd stands with > 2,500 sph
3). Average Age 12 - 18 yrs
4). Average Height 3 - 8 metres
5). Site Index >25

Stands will generally be spaced to 1,000 sph (1,200 sph in HwCw salal areas, and at higher snowpack areas). This will allow for commercial thinning opportunities when stands are 35 to 45 years old.

It is expected that 10 to 15% of regenerated stands will be spaced. Juvenile spacing activities are dependent on FRBC funding.

Fertilization: Many second growth stands on TFL 19 are being fertilized at the time of planting. This helps seedlings achieve free growing sooner thereby minimizing brushing costs.

Post free growing stands will be assessed for fertilization and should have the following attributes:

1). Fd stands or stands with at least 20% Fd mixed (1st priority)
2). Hw Cw salal sites (2nd priority)
3). Spaced and/or pruned stands on medium to poor sites.
4). Second growth Fd stands that are <10 years from harvest.
5). Stands that require green up in order to harvest adjacent timber.
6). Fertilization within pruned stands may be done manually at time of pruning. This will reduce the amount of "wasted" fertilizer, and provide increased benefits to pruned stems.

Candidate stands will be fertilized using nitrogen in the form of urea pellets applied at a rate of 435 kg/ha using aerial methods. Cw Hw salal sites will be fertilized using a nitrogen/phospherus blended mix. Post free growing fertilization activities are dependent on FRBC funding.

2.2) TIMBER QUALITY

It is expected at rotation, the average DBH of second growth stands will be in the 35 - 50 cm range. This is much smaller that the average DBH of many of the old growth stands currently being harvested. It is expected that many of these second growth stands will not have the same amount of clear (knot free) wood as the old growth. Although future markets can not be predicted with any certainty beyond five years, it is expected that some knot free wood will always be in demand.

Opportunities to Increase Timber Quality

Pruning can increase timber quality by minimizing the knotty core and providing clear wood.

Potential Treatments to Increase Timber Quality

Pruning: Stands will be assessed for potential pruning based on the following attributes:

1). Spaced stands composed primarily of Fd and Hw.
2). Concentrate pruning on sites with a high SI. (SI>25)
3). 1st lift pruning (3 metres) on stands that are on average at least 6 m tall.
4). 2nd lift pruning (5.6 m) on stands that are on average at least 10 metres tall.
5). Individual stem diameters should be less than 15 cm (DBH 1st lift and at 3 m height on 2nd lift)

Candidate stands should have between 400 and 600 sph pruned. 40% live crown will be retained on Hw, and a minimum of 3 whorls will be retained on Fd. Pruning activities are dependent on FRBC funding.

2.3) FOREST HEALTH

There have been a few minor forest health issues over the history of TFL 19. There are a few *Armillaria* root rot pockets scattered throughout, and the presence of *Pissodes strobi* has resulted in damage to some sitka spruce plantations. These concerns have been mitigated by planting resistant species in root rot areas, and minimizing the amount of spruce planted within the TFL. *Pissodes* resistant stock is available for planting from the Saanich Forestry Centre.

White Pine Blister Rust is present on second growth white pine. This concern has been mitigated by limiting the amount of white pine planted within the TFL, and by lower branch pruning. Blister rust resistant pine is available from the Saanich Forestry Centre.

Hemlock Dwarf Mistletoe is present on many old growth stands, but should not be a major concern in second growth, as it is addressed through regular and residual falling.

Elk browse on seedlings is a concern in several valleys within the TFL and is addressed by placing browse protectors over seedlings at time of planting.

Except for a small area of rehabilitation, there are no plans for FRBC funded health programs over the next five years. Forest health issues are monitored and control actions taken through regular silviculture surveys.

3.0) Non Timber Issues

3.1) Habitat Supply

A variety of wildlife species occurs within TFL 19. Notable large mammals include Roosevelt elk, black bear, black-tailed deer, and cougar. Smaller mammals such as raccoons, squirrels, and martens along with various species of birds are also found within the TFL. Various salmonids are present in many rivers and streams.

While habitat supply is not directly focused on during incremental silviculture activities, some benefits are being derived: Habitat for elk and deer browse within areas to be spaced and pruned will be maintained or possibly enhanced as a result of more light reaching the forest floor. The increase in light penetrating to the forest floor also provides increase berry production for bear browse.

During spacing or pruning activities, second growth trees with bird nests are left uncut or unpruned. In addition, willow and cascera (known elk browse) can be left uncut, or cut to encourage new regrowth.

Fertilizer free zones are left for a minimum of 10 metres along all observable water ways, and on all fish bearing streams. Cut trees, during spacing activities and pruned branches are removed from streams. These actions help maintain water quality in these water courses.

3.2) Job Outcomes

One of the main focus of FRBC funded projects within TFL 19 is to create local silviculture employment opportunities. Within TFL 19, several First Nations bands have been employed in carrying out juvenile spacing and pruning activities and will continue to play an integral role in future projects.

Year round employment in spacing and pruning is possible provided FRBC funding is available. Some down time is expected each year due to high fire hazard conditions, and heavy snowfall.

The following table lists expected productivity levels for various incremental programs:

Spacing: estimated productivity is 0.1 to 0.2 ha per person day of employment.
Pruning: estimated productivity is 0.1 ha per person day.
Fertilization: estimated productivity is 200ha/day (helicopter)
Back log Planting: estimated productivity is 1 to 2 ha/person day
Backlog Brushing: estimated productivity is 1 ha/person day (chemical) or 0.1 to 0.3 ha per person day (manual)

4.0) Historical Incremental Silviculture Activities

Juvenile spacing on TFL 19 has been ongoing since the mid 1970's. Fertilization of second growth stands has been occurring on the TFL since the early 1980's and pruning has been ongoing since the early 1990's. Most, if not all, the backlog (pre 1987 logging) areas have been reforested and brushing treatments completed where required.

The following table outlines the incremental activity carried out over the last five years on TFL 19.

Year	Spacing	Pruning	Fertilization	Backlog Brushing
1998	165	40	0	2.9
1997	163	111	0	158.2

1996	249	20	188	0
1995	226	39	0	167.4
1994	266	137	0	26.6

note: the values are expressed as hectares (ha) treated.

5.0) TABLES

See file SS2 tables 2001900 06A Van) 19.xls.

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** TFL 19

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

TFL 19
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	850	750	750	800	750	40.00	34000	1
Spacing	170	195	200	200	175	1850.00	314500	1
Pruning	172	195	175	150	150	1950.00	335400	2
Fertilizing	900	500	700	800	700	300.00	270000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	2092	1640	1825	1950	1775	455.97	953,900	
Planning and prescriptions							0	
Total dollars							953,900	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Surveys	850	750	750	800	750	40.00	34,000	
Spacing	170	195	200	200	175	1,849.99	314,500	
Pruning	172	195	175	150	150	1,949.99	335,400	
Fertilizing	900	500	700	800	700	300.00	270,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	2092	1640	1825	1950	1775	455.97	953,900	
Planning and prescriptions							0	
Studies funding							27000	1
Total dollars							980,900	

12/28/2005

TFL 19
Backlog Program Table
For the 2001/02 Fiscal Year

Activities

Legal Obligations

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	

Backlog Reforestation

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	

Impeded areas

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	800	200	200	200	0	35.00	28000	1
Brushing	20	20	0	20	0	850.00	17000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	820	220	200	220	0	54.88	45,000	
Prescriptions and planning dollars							0	
Total impeded areas							45,000	

Site Restoration

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	

Backlog Program Activities - Management Unit Total

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	800	200	200	200	0	35.00	28000	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	20	20	0	20	0	849.92	17000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	820	220	200	220	0	54.88	45000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							45,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 19
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improve-ment	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

Area		
Tree Improve-ment	Nursery Seedling Production	Silviculture Surveys

A Tree Improvement
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002

Backlog area planted from backlog table	0
Enter area of all other sites planted with improved trees	
Total area affected by tree improvement	0

B Nursery production of seedlings
Enter sowing requests from SPAR

C Silviculture surveys
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.
These potentially provide improved estimates of site productivity and operational yield adjustment factors

Total EFP surveys from the EFP table	850
Total backlog surveys from the backlog table.	800
33% of all silviculture surveys	545

Optionally, you may provide a more exact estimate:

Estimate area of regen delay surveys	
Estimate area of free growing surveys	
Estimate area of pre-stand tending surveys	
Estimate of total surveys that will affect timber supply	(A) 0

Surveyed area that will affect timber supply
Replace with (A) if a more exact estimate is calculated 545

Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002

Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)
Estimate area that will be classified as free growing after a survey in 2001/2002

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

TFL 19
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	545	0	0	20	170	172	900	1,807	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	8,848	0	0	325	0	0	27,000		36,174
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	54	0	0	52	673	781	162	181	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	4	4	1	1	11
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

TFL 19
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	2,092	1,640	1,825	1,950	1,775	456	953,900
Planning, prescriptions and seedlings							27,000
Backlog Program Field Activities	820	0	0	0	0	55	45,000
Planning, prescriptions and seedlings							0
Totals	2,912	1,640	1,825	1,950	1,775		1,025,900

Performance Measures

Potential total merchentable volume increment in 65 years	36,174 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	11 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

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Attachments

Enhanced, Backlog, Performance and Management Unit Summary Tables by Forest District and TFL Block

Introduction

This document is submitted in response to the Ministry of Forests and Ministry of Environment request for a Resource Management Plan. This information is drawn from Management Plan 9 for Tree Farm License (TFL) 25, Management Plan 7 for TFL 24, and adjusted for operational factors. This document references TFL 25 as a whole but provides separate SH sheets by Forest District and TFL Block. No modifications were made to the SH spreadsheets provided with the RMP instructions. Although they may not hold true for all areas, no changes were made to the broad Performance Measures provided on these sheets.

1.0 Basic Data

1.1 Administrative Information

Western Forest Products Naka Tree Farm License 25 is made up of five 5 administrative units. Two are located on Vancouver Island, two on the Mainland coast between Stafford Inlet and Douglas Channel (2 of 5) and one on Moresby Island in the Queen Charlottes. Moresby Tree Farm License 24 was consolidated into TFL 25 in 1998 as Block 6. At the same time the Port McNeill Block (4) of TFL 25 was amended to TFL 6. As a result, TFL 25 has Blocks 1, 2, 3, 5 and 6.

Block #1 is a unit of 31,000 ha located west of Sooke between the Strait of Juan de Fuca and the San Juan Ridge. This area has been managed as a sustained yield unit within the TFL as a whole since the inception of the TFL in 1958.

Block #2 is a unit of 66,645 ha located in Loughborough Inlet. There are four sub units: Heydon Bay, Apple River, Fraser Bay and Stafford River. The Heydon Bay, Apple River and Fraser Bay sub-units are comprised mainly of second growth. Logging started prior to the 1960's and from 1960 – 1993. From 1958 to 1988 Block 2, 3, and 5 were managed together as a sustained yield unit, with harvest levels apportioned to each block arbitrarily. Harvesting was concentrated in Blocks 2 and 3 until 1989 when the management approach was changed and each block was considered to be an independent sustained yield unit. Management Plan 9 in 1996 was the first to determine a sustainable harvest for Block 2 independently.

Block #3 is a unit of 16,305 ha located on Vancouver Island about 50 km east of Port McNeill. From 1958 to 1988, this unit was managed in conjunction with blocks 2 and 5. Harvest levels were determined for all three blocks together, and apportioned to the individual blocks in an arbitrary manner. Harvest was concentrated in blocks 2 and 3 until 1989 when the management approach was changed and each block transitioned to an independent sustained yield unit. Management Plan 9 in 1996 was the first to determine a sustainable harvest for Block 3 independently.

Block #5 is located on the mainland coast between Bella Bella and Gardiner Canal. From 1958 until 1988, this unit was managed in conjunction with units 2 and 3. Harvest levels were determined for all three blocks and apportioned to individual blocks

in an arbitrary manner. Harvesting was concentrated in Blocks 2 and 3 until 1989 when each block transitioned to a sustained yield unit. Management plan 9 in 1996 was the first to determine an independent sustained yield for Block 5 independently.

Block 6 is located on Moresby Island in the Queen Charlottes. This 53,360 ha unit was formerly Tree Farm License 24. The majority of the northernmost subunit (Moresby) of this Block is second growth. Current harvest is concentrated in the Sewell Inlet subunit.

1.2 Land Area

The following table summarizes the total and operable area in the TFL 25 by Block as found in the approved management plans (TFL 25 and former TFL 24). This operability has been revisited as part of the data package for Management Plan 10 which is currently being compiled.

TFL Block	Total Area (ha)	Operable Forest Area (ha)
1	32,248	21,448
2	66,645	12,952
3	16,305	8,646
5	311,649	48,385
6	53,360	23,514

1.3 Annual Allowable Cut (AAC) and Harvest Forecast

The BC Chief Forester has determined that each TFL Block be managed as a sustained yield unit with it's own yield analysis and AAC. The AAC and long-run sustained yield (LRSY) by supply block is as follows:

TFL Block	AAC	Commercial Thinning	LRSY
1	175,000	10,000	157,000-173,000
2	92,000		65,000
3	55,000		37-54,000
5	255,000		215,000
6	115,000		181-200,000

The yield analyses were conducted for a number of management assumptions and scenarios. LRSY is sensitive to current and future management assumptions.

1.4 Site Class Profile

The site class breakdown by TFL Block is dependent on the site index method used in the individual timber supply analysis. TFL Blocks 1, 3, and 6 are currently based on ecological productivity classes derived from WFP's ecological mapping and permanent sample plots. Blocks 2 and 5 are based on Ministry of Forest's methodology. This will be updated in the next Management Plan as WFP has completed ecological classification of Blocks 2 and 5. The current site index assignments by TFL Block are as follows:

TFL Block	Operable Area by Site Class (ha)		
	Good	Medium	Poor
1	6,924.6	11,433.5	3,313.1
2	1,139.3	10,301.5	1,668.0
3	2,542.4	5,327.7	1,024.6
5	5,511.4	33,059.0	10,038.0
6	7,743.0	14,439.0	2,362.0

1.5 Age Class Profile

TFL Block	Operable Working Forest (ha)		
	0-80 years	80-140 years	140 + years
1	74%	1%	25%
2	50%	2%	48%
3	30%	4%	66%
5	9%	0%	91%
6	71%	1%	28%
Total TFL	47%	1%	52%

1.6 Species Profile

Block	Douglas-Fir	Red and Yellow Cedar	Western Hemlock	Balsam	Spruce	Deciduous
1	45%	17%	33%	2%	0%	3%
2	4%	32%	48%	14%	0%	2%
3	2%	36%	56%	6%	0%	0%
5	0%	42%	36%	18%	2%	2%
6	0%	15%	46%	0%	30%	9%
TFL	10%	28%	45%	8%	6%	3%

2.0 Timber Supply Issues

2.1 Timber Quantity

Forest policy and factors affecting harvest rates have changed since the Timber Supply Analysis supporting the TFL 25 annual allowable cut was completed. There have been new operational constraints as a result of the implementation of the Forest Practices Code, new planning processes or Plans (CCLRMP and VILUP) and new policies such as the Identified Wildlife Management Strategy and Landscape Unit Planning. Blocks 1 and 3 will be affected by VILUP while Blocks 2 and 5 are subject to the CCLRMP processes. Block 5 is also impacted by the ongoing Coastal Forest Conservation Initiative. It is anticipated that these new factors will put downward pressure on the upcoming AAC.

The TFL 25 Management Plan 10 Timber Supply analysis is near completion. This analysis will incorporate these constraints as well as spatial model development. Advances in inventories and modeling procedures are also expected to influence future analyses. The previous Management Plans projected the following:

Block #1

The harvest in this unit is 175,000 m3/year in the first decade. Depending on management assumption this rate will decline marginally to between 160,000 and 173,000 by decade 19.

Block #2

The harvest in this unit is 92,000 m^3/year in the first decade declining to 60-65,000 m^3/year in decade 5. The transition of this unit to a separate sustained yield unit from 1989 to 1996 has influenced the age class structure of this unit, which contains considerable second growth.

Block #3

The harvest in decade one is 55,000 m^3/year declining in decade two to 49,000 m^3/year. The transition of this unit to a separate sustained yield unit from 1989 to 1996 has influenced the age class structure of this unit.

Block #5

The harvest is 255,000 m^3/year declining to a LRSY of 212,000 m^3/year in decade two. Block 5 is subject to the CCLRMP.

Block #6

The approved harvest is 115,000 m^3/year declining to 98,800 m^3/year in decade two, remaining at that level until 2059 when second growth areas begin to reach maturity. The projected harvest level then begins to rise towards LRSY which will be between 170,000 and 190,000 m3/year depending on management and landbase assumptions. This unit is influenced by a significant age class gap resulting from the establishment of the South Moresby National Park over a number of the former supply blocks. The current Timber Supply Analysis for this block predates many Forest Practices Code constraints.

2.2 Timber Quality

The last Timber Supply Analysis projected that the bulk of the harvest in the short-term, mid-term will continue to come from old growth forest. Past that point, harvest will be dominated by second growth. If projected rotations do not allow time for the development of quality characteristics such as small knots, clear wood and mature fibre, there could be a reduction in stand value not only on a cubic meter basis but also on a per hectare basis.

WFP's growth and yield work indicates that rotations can be extended without a significant impact on LRSY MAI. For TFL 6, which has similar ecosystems, WFP has adopted an average rotation of 104 years. This rotation will produce stands with an average diameter in the 40 to 45 cm dbh range.

A timber quality analysis produced for the last TFL 25 Management Plan compared second growth grades predicted by the model to produced grades from current second growth logging. The analysis indicated it was possible to produce a second growth grade profile similar to our experienced production from second growth stands if an average diameter between 35 and 45 cm was targeted.

The average TFL 6 rotation that would maximize yield (82 years) will only produce stands with an average diameter in the range of 30 to 35 cm dbh. The TFL 25 analysis confirmed that by extending rotations it would be possible to produce average diameters in the 35 to 45 cm range and improve log grades. Overall, the minor loss in quantity from a longer rotation is more than offset by an increase in future value.

The analysis concluded that when compared to longer rotations, there was little economic justification for silviculture treatments that increased second growth diameters. However, it did note that pruning would be necessary if there was a desire to produce the highest grades.

2.3 Forest Health

There have been minor forest health and protection issues over the history of TFL 25. Block 1 has occasional *Phellinus* and *Armillaria* root rot pockets, the other TFL Blocks have generally insignificant *Armillaria* impacts.

The most visible insect pests have been the Black Headed Budworm on the Queen Charlotte Island and Vancouver Island and the Spruce Shoot Weevil on Vancouver Island and the Mainland. The Budworm has appeared on a ten cycle and has caused significant defoliation but there has been little mortality or volume loss. Block 6 is currently being affected by an outbreak.

The Sitka Spruce Shoot Weevil may restrict where Sitka Spruce can be regenerated. The Weevil is being addressed through WFP's Saanich Forestry Center Tree Improvement Program which is cooperating with MOF Breeders to produce and evaluate resistant stock.

Hemlock Dwarf Mistletoe is common and has not been debilitating to regenerating stands as long as the predominant silvicultural system has been clearcut or clearcut with reserves. As management moves to various types of retention the impact of mistletoe on developing stands may increase. In clearcut or clearcut with reserve areas, ,mistletoe is addressed through regular and residual falling.

Deer browse of western red cedar is a significant concern in Block 6 in young regenerating stands. It is addressed through seedling protection at the time of planting. There is minor second growth damage caused by porcupines in Block 5.

There are no plans for FRBC funded pest control programs. Endemic health issues are monitored through regular silviculture surveys. Atypical pest outbreaks are monitored with special surveys.

2.4 Habitat Supply

Landscape Unit Planning processes are being initiated in most TFL Blocks. This process is expected to take several years to complete. Initial Landscape Unit Planning will establish Old Growth Management Areas and target Wildlife Tree retention percentages. Stand level biodiversity initiatives including Wildlife Tree patches are currently incorporated in harvest planning. A brief summary of habitat issues by supply block is listed below:

Block #1

Discussions with MoELP are ongoing to address potential needs for Marbled Murrelets and ungulate winter ranges.

Block #2

Ungulate winter range and mountain goat winter range issues have been identified in a number of locations. Grizzly Bear habitat may be an issue on certain sites, but will be addressed in new silviculture prescriptions through grizzly bear stocking standards and riparian reserves. A Total Resource Plan for all species has been prepared for this Block.

Blocks 5, 6

A number of biodiversity studies have been conducted by WFP in support of management planning. Grizzly Bear habitat may be an issue on certain sites in Block 5, but will be addressed in new silviculture prescriptions through grizzly bear stocking standards and riparian reserves. WFP has been supporting Kermode research in Block 5 to better understand the higher instance of this recessive trait in black bears in the area.

To date the WFP Silviculture Program has not focussed on habitat supply issues.

3.0 Enhanced Backlog and Intensive Silviculture

3.1 History

A summary of historical silviculture work on TFL 25 is attached in appendix 1. This will be fax separately to email copies of this Plan.

3.2 Effect on Previous Timber Supply Analyses

Brushing

Brushing has been conducted as a routine treatment to maintain conifer dominance on sites. As such, the historic brushing program has had no effect on the timber supply.

Pre Commercial Thinning (PCT)

The TFL 25 MP 9 Analysis assumptions incorporated historical levels of PCT into the base case harvest determination. The analysis also conducted sensitivity analyses, thinning up to 50-75% of the available projected growing stock in several supply blocks (1, 2, 3). The general impact on timber supply harvest volume level was slightly negative or positive depending on the specific assumptions for a given TFL Block.

PCT benefits include favourability of values and costs associated with the larger piece sizes resulting from PCT. Blocks 2, 3, and 6 have degrees of age class imbalance, which will additionally benefit from PCT. Economic analyses at the stand level in TFL Management Plan 9 indicated positive net present value from PCT on good sites.

Pruning

The TFL 25 Timber Supply Analysis did not model pruning as pruning targets wood quality rather than volume.

Fertilization

Fertilization can add volume and value to PCT and CT. Fertilization of second growth mixed stands of cedar and hemlock stands that are dominate by salal also show significant growth increases.

Block 1 contains some cedar–hemlock-salal sites that are nutrient deficient and will benefit from fertilization. Modeling of fertilization of all projected PCT and CT in Block 1 demonstrated that harvest level was maintained but not increased. Montane screening trials have been encouraging. It is proposed that further screening trials be established in this Block. There may be opportunities for late rotational fertilization prior to harvest in second growth stands. We are proposing to evaluated older stands in 2001-02.

Blocks 2 and 3 contain both cedar-hemlock-salal sites that are nutrient deficient as will benefit from fertilization as well as managed second growth stands that have been spaced and pruned. There are opportunities to fertilize both.

Block 5 has not traditionally been considered a good area to fertilize due to poor access. We are proposing to establish fertilization screen trials in this area.

Block 6 has been extensively foliar sampled and has demonstrated endemic nutrient deficiencies. Fertilization in this block will contribute to alleviating age class imbalance.

4.0 Future Timber Supply

The Management Plan 9 TFL 25 Rationale for Allowable Annual Cut determination identifies a number of issues by TFL Block.

The analysis for TFL Block 1,2,3 and 5 incorporated Forest Practices Code (FPC) riparian requirements, visual quality requirements, green-up constraints and block size limits. The new Management Plan will incorporate updated inventories, spatial modeling, and will include provincial initiatives such as Wildlife Management Strategy and Landscape Unit Planning.

While the Chief Forester identified some upward potential in some harvest levels, addition of wildlife and biodiversity initiatives imply potential downward pressure on the current AAC. Block 2 and 5 are potentially impacted by the Central Coast Land and Resource Planning (CCLRMP) process. Block 5 currently has a number of significant areas deferred from harvest pending the outcome of this forum and the CFCI. Block 2 is in a high biodiversity emphasis option.

Block 6 re-analysis will address Forest Practices Code requirements, and the potential for significant downward pressure exists due to the imposition of new constraints such as green-up, patch size, and riparian.

4.1 Timber Supply Quantity and Quality Improvement

Conventional backlog treatments or intensive treatments such as precommercial thinning or convention stand fertilization have little impact on LRSY as long as there is a uniform immature age class distribution. If forest management policies create an immature age class imbalance, these treatments are of benefit in smoothing harvest flows.

SCHIRP research indicates that fertilization of young hemlock/cedar stands to attain crown closure can have a positive effect on site productivity and harvest rates, especially if the treatments result in permanent growth effects. Fertilization of PCT or CT areas can capture the increase in growing space and compensate for potential volume impacts from PCT.

However, 'intensive' basic practices which decrease regeneration delay, increase site occupancy, hasten free-growing and green-up or permanently increase site productivity could have the greatest effect on long term yields.

The volume forecasts which WFP growth and yield models use are reduced by approximately 20% to recognize operational factors that reduce stocking and final volume on an area basis. It would be possible to reduce this Operational Adjustment Factor (OAF) through genetic improvement and an aggressive stocking and brushing program. The issue of an 'enhanced' basic program has been raised in the past but never approved for implementation by the Ministry of Forests or FRBC.

5.0 Proposed Program

The proposed sustainable harvest programs have been attached for each TFL Block and Forest District. This program covers currently eligible impeded backlog and enhanced silviculture projects. The focus of the program is to first address backlog issues and then focus on enhanced opportunities. The enhanced program has two goals. The first is to provide employment opportunities to First Nations in areas of chronic under-employment. The second, in areas where under employment is not a significant issue, is to focus on treatments which will maximize volume production or address age class imbalances.

6.0 Other Considerations

The provincial enhanced silviculture program has historically had a social component. The employment and social values were given even greater importance under the initial FRBC mandate. To date licensee and government programs have ensured that a proportion of the silviculture program was directed to local communities and First Nations.

Western Forest Products is encouraging the development of local First Nations silviculture contractors through the award of silviculture contracts at market prices. It is our expectation that RMPs will be able to retain sufficient flexibility to incorporate these programs and partnerships into new programs.

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** Naka TFL25 - Block 2 Heydon Bay - Campbell River Forest Distri

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

Naka TFL25 - Block 2 Heydon Bay - Campbell River Forest District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		priority
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	
Stand Tending								
Surveys	300	0	0	0	0	50.00	15000	1
Spacing	0	0	0	160	0	0.00	0	
Pruning	0	0	0	40	0	0.00	0	
Fertilizing	300	0	0	0	0	450.00	135000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	600	0	0	200	0	250.00	150,000	
Planning and prescriptions							7,500	
Total dollars							157,500	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Treatments	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	300	0	0	0	0	50.00	15,000	
Spacing	0	0	0	160	0	0.00	0	
Pruning	0	0	0	40	0	0.00	0	
Fertilizing	300	0	0	0	0	450.00	135,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	600	0	0	200	0	250.00	150,000	
Planning and prescriptions							7,500	
Studies funding							0	
Total dollars							157,500	

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Naka TFL25 - Block 2 Heydon Bay - Campbell River Forest District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		priority
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	
Legal Obligations								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	60	0	0	0	0	60.00	3600	1
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	60	0	0	0	0	60.00	3,600	
Prescriptions and planning dollars							400	
Total impeded areas							4,000	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	60	0	0	0	0	60.00	3600	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	60	0	0	0	0	59.99	3600	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							400	
Recommended studies							0	
Total backlog program							4,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

Naka TFL25 - Block 2 Heydon Bay - Campbell River Forest District
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.34	0	0.25	0	1.9	0.25	0	0	0.40	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							5-15%	15-30%	1-5%	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

Area		
Tree Improvement	Nursery Seedling Production	Silviculture Surveys

A Tree Improvement

Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002	
Backlog area planted from backlog table	0
Enter area of all other sites planted with improved trees	
Total area affected by tree improvement	0

B Nursery production of seedlings
Enter sowing requests from SPAR

C Silviculture surveys
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.
These potentially provide improved estimates of site productivity and operational yield adjustment factors

Total EFP surveys from the EFP table	300
Total backlog surveys from the backlog table.	60
33% of all silviculture surveys	119

Optionally, you may provide a more exact estimate:

Estimate area of regen delay surveys	
Estimate area of free growing surveys	
Estimate area of pre-stand tending surveys	
Estimate of total surveys that will affect timber supply	(A) 0

Surveyed area that will affect timber supply
Replace with (A) if a more exact estimate is calculated 119

Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002

Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)
Estimate area that will be classified as free growing after a survey in 2001/2002

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Naka TFL25 - Block 2 Heydon Bay - Campbell River Forest District
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	119	0	0	0	0	0	300	419	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.34	0	0.25	0	1.9	0.25	0	0	0.40		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	1,931	0	0	0	0	0	7,800		9,731
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							5-15%	15-30%	1-5%		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	12	0	0	0	0	0	54	42	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	0	0	0	0	1
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat creation in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

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Naka TFL25 - Block 2 Heydon Bay - Campbell River Forest District
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	600	0	0	200	0	250	150,000
Planning, prescriptions and seedlings							7,500
Backlog Program Field Activities	60	0	0	0	0	60	3,600
Planning, prescriptions and seedlings							400
Totals	660	0	0	200	0		161,500

Performance Measures

Potential total merchentable volume increment in 65 years	9,731 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	1 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat creation	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

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Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

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2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
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12/28/2005

Naka Tree Farm License 25 Block 3 Naka Creek - Campbell River Forest District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	priority
Stand Tending								
Surveys	50	50	250	50	50	25.00	1250	1
Spacing	20	20	20	20	20	2500.00	50000	1
Pruning	30	30	30	30	30	3000.00	90000	1
Fertilizing	0	0	200	0	0	0.00	0	
Other	0	0	0	0	0	0.00	0	
Totals hectares	100	100	500	100	100	1412.47	141,250	
Planning and prescriptions							3,750	
Total dollars							145,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Habitat Supply and Biodiversity Enhancement								
Treatments	0	0	0	0	0	0.00	0	
Domestic Range								
Treatments	0	0	0	0	0	0.00	0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	50	50	250	50	50	25.00	1,250	
Spacing	20	20	20	20	20	2,499.88	50,000	
Pruning	30	30	30	30	30	2,999.90	90,000	
Fertilizing	0	0	200	0	0	0.00	0	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	100	100	500	100	100	1,412.40	141,250	
Planning and prescriptions							3,750	
Studies funding							0	
Total dollars							145,000	

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Naka Tree Farm License 25 Block 3 Naka Creek - Campbell River Forest District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		Priority
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	
Legal Obligations								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	40	40	40	40	40	25.00	1000	1
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	40	40	40	40	40	25.00	1,000	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							1,000	
Impeded areas								
Surveys	10	0	10	0	10	25.00	250	1
Brushing	10	0	10	0	10	800.00	8000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	20	0	20	0	20	412.48	8,250	
Prescriptions and planning dollars							750	
Total impeded areas							9,000	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	50	40	50	40	50	25.00	1250	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	10	0	10	0	10	799.84	8000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	60	40	60	40	60	154.14	9250	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							750	
Recommended studies							0	
Total backlog program							10,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

Naka Tree Farm License 25 Block 3 Naka Creek - Campbell River Forest District
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
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Entries needed are in red

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Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.34	0	0.25	0	1.9	0.25	0	0	0.40	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							5-15%	15-30%	1-5%	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			50
Total backlog surveys from the backlog table.			50
33% of all silviculture surveys			33
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			33
Related goal: 25,000 hectares will be added back to the comm[illegible] forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as S[illegible] survey in 2001/2002			
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

Naka Tree Farm License 25 Block 3 Naka Creek - Campbell River Forest District
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	33	0	0	10	20	30	0	93	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.34	0	0.25	0	1.9	0.25	0	0	0.40		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	536	0	0	163	0	0	0		699
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							5-15%	15-30%	1-5%		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	3	0	0	26	79	136	0	9	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	0	1	0	0	1
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat creation in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

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Naka Tree Farm License 25 Block 3 Naka Creek - Campbell River Forest District
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	100	100	500	100	100	1,412	141,250
Planning, prescriptions and seedlings							3,750
Backlog Program Field Activities	60	40	60	40	60	154	9,250
Planning, prescriptions and seedlings							750
Totals	160	140	560	140	160		155,000

Performance Measures	
Potential total merchentable volume increment in 65 years	699 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	1 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat creation	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** TFL39 - Weyerhaeuser Company Ltd.

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

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TFL39 - Weyerhaeuser Company Ltd.
Enhanced Forestry Table - Summary
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	4860	4860	4810	4810	4810	34.57	168000	1
Spacing	435	435	485	485	485	1875.86	816000	2
Pruning	95	110	110	110	110	2160.53	205250	2
Fertilizing	3600	3600	3600	3600	3600	312.78	1126000	1
Other	10	10	10	10	10	7500.00	75000	
Totals hectares	9000	9015	9015	9015	9015	265.58	2,390,250	
Planning and prescriptions							4000	1
Total dollars							2,394,250	
Forest Health Enhancement								
Spacing	20	70	70	70	70	2000.00	40000	2
Pruning	0	50	50	50	50		0	
Other treatments	500	500	500	500	500	50.00	25000	2
Totals hectares	520	620	620	620	620	125.00	65,000	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	20	20	20	20	20	3000.00	60000	2
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	20	20	20	20	20	3000.00	60,000	
Domestic Range								
Treatments	0	0	0	0	0		0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	4860	4860	4810	4810	4810	34.57	168,000	
Spacing	455	505	555	555	555	1881.32	856,000	
Pruning	95	160	160	160	160	2160.53	205,250	
Fertilizing	3600	3600	3600	3600	3600	312.78	1,126,000	
Other stand tending activities	530	530	530	530	530	301.89	160000	
Totals hectares	9540	9655	9655	9655	9655	263.65	2,515,250	
Planning and prescriptions							4,000	
Studies funding							180000	1
Total dollars							2,699,250	

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TFL39 - Squamish District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	0	0	0	0	0		0	
Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Fertilizing	0	0	0	0	0		0	
Other	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Planning and prescriptions							0	
Total dollars							0	
Forest Health Enhancement								
Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	0	0	0	0	0		0	
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Domestic Range								
Treatments	0	0	0	0	0		0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	0	0	0	0	0		0	
Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Fertilizing	0	0	0	0	0		0	
Other stand tending activities	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							0	

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TFL 39 - Sunshine Coast District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities

Stand Tending

	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	300	300	300	300	300	40.00	12000	1
Spacing	50	50	50	50	50	2000.00	100000	2
Pruning	15	30	30	30	30	2150.00	32250	2
Fertilizing	400	400	400	400	400	290.00	116000	1
Other	0	0	0	0	0		0	
Totals hectares	765	780	780	780	780	340.20	260,250	
Planning and prescriptions							4,000	1
Total dollars							264,250	

Forest Health Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	20	20	20	20	20	2000.00	40000	2
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	20	20	20	20	20	2000.00	40,000	

Habitat Supply and Biodiversity Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	10	10	10	10	10	3000.00	30000	2
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	10	10	10	10	10	3000.00	30,000	

Domestic Range

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0		0	

Enhanced Forestry Activities - Management Unit Total

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	300	300	300	300	300	40.00	12,000	
Spacing	70	70	70	70	70	2000.00	140,000	
Pruning	15	30	30	30	30	2150.00	32,250	
Fertilizing	400	400	400	400	400	290.00	116,000	
Other stand tending activities	10	10	10	10	10	3000.00	30,000	
Totals hectares	795	810	810	810	810	415.41	330,250	
Planning and prescriptions							4,000	
Studies funding (Elk, Ba Wooly Aphid, Cw Browsing)							40000	1
Total dollars							374,250	

TFL 39 - Campbell River District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities

Stand Tending

	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	3200	3200	3200	3200	3200	30.63	98000	1
Spacing	185	185	185	185	185	1837.84	340000	1
Pruning	50	50	50	50	50	2000.00	100000	2
Fertilizing	2500	2500	2500	2500	2500	250.00	625000	1
Other	0	0	0	0	0		0	
Totals hectares	5935	5935	5935	5935	5935	195.96	1,163,000	
Planning and prescriptions							0	
Total dollars							1,163,000	

Forest Health Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Habitat Supply and Biodiversity Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	0	0	0	0	0		0	
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Domestic Range

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0		0	

Enhanced Forestry Activities - Management Unit Total

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	3200	3200	3200	3200	3200	30.63	98,000	
Spacing	185	185	185	185	185	1837.84	340,000	
Pruning	50	50	50	50	50	2000.00	100,000	
Fertilizing	2500	2500	2500	2500	2500	250.00	625,000	
Other stand tending activities	0	0	0	0	0		0	
Totals hectares	5935	5935	5935	5935	5935	195.96	1,163,000	
Planning and prescriptions							0	
Studies funding (2 studies: forage photo-interp, fert of vaccinium & salal)							40000	1
Total dollars							1,203,000	

TFL 39 - Port McNeill District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities

Stand Tending

	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	1000	1000	1000	1000	1000	40.00	40000	1
Spacing	80	80	80	80	80	1800.00	144000	2
Pruning	20	20	20	20	20	2400.00	48000	2
Fertilizing	600	600	600	600	600	525.00	315000	1
Other - training (Comfor)	10	10	10	10	10	7500.00	75000	1
Totals hectares	1710	1710	1710	1710	1710	363.74	622,000	
Planning and prescriptions							0	
Total dollars							622,000	

Forest Health Enhancement

Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0		0	
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Domestic Range

Treatments	0	0	0	0	0		0	

Enhanced Forestry Activities - Management Unit Total

Surveys	1000	1000	1000	1000	1000	40.00	40,000	
Spacing	80	80	80	80	80	1800.00	144,000	
Pruning	20	20	20	20	20	2400.00	48,000	
Fertilizing	600	600	600	600	600	525.00	315,000	
Other stand tending activities	10	10	10	10	10	7500.00	75,000	
Totals hectares	1710	1710	1710	1710	1710	363.74	622,000	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							622,000	

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TFL 39 - Mid Coast District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Stand Tending								
Surveys	60	60	60	60	60	150.00	9000	1
Spacing	20	20	20	20	20	2600.00	52000	1
Pruning	10	10	10	10	10	2500.00	25000	2
Fertilizing	0	0	0	0	0		0	
Other	0	0	0	0	0		0	
Totals hectares	90	90	90	90	90	955.56	86,000	
Planning and prescriptions							0	
Total dollars							86,000	
Forest Health Enhancement								
Spacing	0	0	0	0	0		0	
Pruning	0	0	0	0	0		0	
Other treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Habitat Supply and Biodiversity Enhancement								
Riparian treatments	10	10	10	10	10	3000.00	30000	2
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	10	10	10	10	10	3000.00	30,000	
Domestic Range								
Treatments	0	0	0	0	0		0	
Enhanced Forestry Activities - Management Unit Total								
Surveys	60	60	60	60	60	150.00	9,000	
Spacing	20	20	20	20	20	2600.00	52,000	
Pruning	10	10	10	10	10	2500.00	25,000	
Fertilizing	0	0	0	0	0		0	
Other stand tending activities	10	10	10	10	10	3000.00	30,000	
Totals hectares	100	100	100	100	100	1160.00	116,000	
Planning and prescriptions							0	
Studies funding							0	
Total dollars							116,000	

TFL 39 - Queen Charlotte District
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities

Stand Tending

Activities	Treatment Area Goals (ha) 2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Plan 2001/02 Unit Cost ($/ha)	Funding ($)	Priority
Surveys	300	300	250	250	250	30.00	9000	1
Spacing	100	100	150	150	150	1800.00	180000	2
Pruning	0	0	0	0	0		0	
Fertilizing	100	100	100	100	100	700.00	70000	1
Other	0	0	0	0	0		0	
Totals hectares	500	500	500	500	500	518.00	259,000	
Planning and prescriptions							0	
Total dollars							259,000	

Forest Health Enhancement

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	0	50	50	50	50		0	
Pruning	0	50	50	50	50		0	
Other treatments	500	500	500	500	500	50.00	25000	2
Totals hectares	500	600	600	600	600	50.00	25,000	

Habitat Supply and Biodiversity Enhancement

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	0	0	0	0	0		0	
Non-riparian treatments	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	

Domestic Range

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0		0	

Enhanced Forestry Activities - Management Unit Total

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	300	300	250	250	250	30.00	9,000	
Spacing	100	150	200	200	200	1800.00	180,000	
Pruning	0	50	50	50	50		0	
Fertilizing	100	100	100	100	100	700.00	70,000	
Other stand tending activities	500	500	500	500	500	50.00	25,000	
Totals hectares	1000	1100	1100	1100	1100	284.00	284,000	
Planning and prescriptions							0	
Studies funding	(Black-headed Bud Worm $50 k, Var Dens Spc $50k studies)						100,000	
Total dollars							384,000	

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TFL39 - Weyerhaeuser Company Ltd.
Backlog Program Table - Summary
For the 2001/02 Fiscal Year

Activities	**Treatment Area Goals (ha)**					**Plan 2001/02**		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	100	100	100	50	50	25.00	2500	1
Site preparation	5	5	5	5	5	1,000.00	5000	1
Planting	20	20	20	0	0	600.00	12000	1
Brushing	30	30	30	30	30	1,000.00	30000	1
Max. density spacing	0	0	0	0	0		0	
Totals hectares	155	155	155	85	85	319.35	49,500	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							49,500	
Backlog Reforestation								
Surveys	4825	3625	1625	1375	1375	25.62	123625	1
Site preparation	0	0	0	0	0		0	
Planting	85	85	85	85	85	1,905.88	162000	2
Brushing	480	300	190	170	170	1,125.00	540000	1
Totals hectares	5390	4010	1900	1630	1630	153.18	825,625	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							25000	1
Total backlog reforestation							850,625	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	220	150	60	60	40	2,904.55	639000	1
Reforestation	60	60	40	40	20	1,133.33	68000	1
Totals hectares	280	210	100	100	60	2,525.00	707,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							707,000	
Backlog Program Activities - Management Unit Total								
Surveys	4925	3725	1725	1425	1425	25.61	126125	
Site preparation	225	155	65	65	45	2,862.22	644000	
Planting	165	165	145	125	105	1,466.67	242000	
Brushing	510	330	220	200	200	1,117.65	570000	
Density spacing	0	0	0	0	0		0	
Totals hectares	5825	4375	2155	1815	1775	271.61	1582125	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							25,000	
Recommended studies							45000	1
Total backlog program							1,652,125	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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TFL 39 - Squamish District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	0	0	0	0	0		0	
Reforestation	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							0	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 39 - Sunshine Coast District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	30	30	30	30	30	1,000.00	30000	1
Max. density spacing	0	0	0	0	0		0	
Totals hectares	30	30	30	30	30	1,000.00	30,000	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							30,000	
Backlog Reforestation								
Surveys	450	450	450	200	200	25.00	11250	1
Site preparation	0	0	0	0	0		0	
Planting	10	10	10	10	10	1,100.00	11000	1
Brushing	40	20	20	0	0	1,000.00	40000	1
Totals hectares	500	480	480	210	210	124.50	62,250	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							9,000	1
Total backlog reforestation							71,250	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	40	40	20	20	0	3,000.00	120000	1
Reforestation	40	40	20	20	0	1,100.00	44000	1
Totals hectares	80	80	40	40	0	2,050.00	164,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							164,000	
Backlog Program Activities - Management Unit Total								
Surveys	450	450	450	200	200	25.00	11250	
Site preparation	40	40	20	20	0	3,000.00	120000	
Planting	50	50	30	30	10	1,100.00	55000	
Brushing	70	50	50	30	30	1,000.00	70000	
Density spacing	0	0	0	0	0		0	
Totals hectares	610	590	550	280	240	420.08	256250	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							9,000	
Recommended studies (herbicide & manual treatment studies)							25,000	
Total backlog program							290,250	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

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TFL 39 - Campbell River District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	1175	1175	175	175	175	37.77	44375	1
Site preparation	0	0	0	0	0		0	
Planting	20	20	20	20	20	2,300.00	46000	2
Brushing	80	80	20	20	20	1,000.00	80000	1
Totals hectares	1275	1275	215	215	215	133.63	170,375	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total backlog reforestation							170,375	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	140	70	0	0	0	2,850.00	399000	1
Reforestation	0	0	0	0	0		0	
Totals hectares	140	70	0	0	0	2,850.00	399,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							399,000	
Backlog Program Activities - Management Unit Total								
Surveys	1175	1175	175	175	175	37.77	44375	
Site preparation	140	70	0	0	0	2,850.00	399000	
Planting	20	20	20	20	20	2,300.00	46000	
Brushing	80	80	20	20	20	1,000.00	80000	
Density spacing	0	0	0	0	0		0	
Totals hectares	1415	1345	215	215	215	402.39	569375	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							569,375	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

12/28/2005

TFL 39 - Port McNeill District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	1200	0	0	0	0	40.00	48000	1
Site preparation	0	0	0	0	0		0	
Planting	5	5	5	5	5	1,000.00	5000	2
Brushing	60	50	0	0	0	1,000.00	60000	1
Totals hectares	1265	55	5	5	5	89.33	113,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total backlog reforestation							113,000	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	40	40	40	40	40	3,000.00	120000	1
Reforestation	0	0	0	0	0		0	
Totals hectares	40	40	40	40	40	3,000.00	120,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							120,000	
Backlog Program Activities - Management Unit Total								
Surveys	1200	0	0	0	0	40.00	48000	
Site preparation	40	40	40	40	40	3,000.00	120000	
Planting	5	5	5	5	5	1,000.00	5000	
Brushing	60	50	0	0	0	1,000.00	60000	
Density spacing	0	0	0	0	0		0	
Totals hectares	1305	95	45	45	45	178.54	233000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							233,000	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 39 - Mid Coast District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	0	0	0	0	0		0	
Reforestation	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	0	0	0		0	
Site preparation	0	0	0	0	0		0	
Planting	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							0	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 39 - Queen Charlotte District
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	100	100	100	50	50	25.00	2500	1
Site preparation	5	5	5	5	5	1,000.00	5000	1
Planting	20	20	20	0	0	600.00	12000	1
Brushing	0	0	0	0	0		0	
Max. density spacing	0	0	0	0	0		0	
Totals hectares	125	125	125	55	55	156.00	19,500	
Seed purchase	0	0	0	0	0		0	
Total legal obligations							19,500	
Backlog Reforestation								
Surveys	2000	2000	1000	1000	1000	10.00	20000	1
Site preparation	0	0	0	0	0		0	
Planting	50	50	50	50	50	2,000.00	100000	1
Brushing	300	150	150	150	150	1,200.00	360000	1
Totals hectares	2350	2200	1200	1200	1200	204.26	480,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							16,000	1
Total backlog reforestation							496,000	
Impeded areas								
Surveys	0	0	0	0	0		0	
Brushing	0	0	0	0	0		0	
Density spacing	0	0	0	0	0		0	
Totals hectares	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0		0	
Rehabilitation	0	0	0	0	0		0	
Reforestation	20	20	20	20	20	1,200.00	24000	2
Totals hectares	20	20	20	20	20	1,200.00	24,000	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning dollars							0	
Total site restoration							24,000	
Backlog Program Activities - Management Unit Total								
Surveys	2100	2100	1100	1050	1050	10.71	22500	
Site preparation	5	5	5	5	5	1,000.00	5000	
Planting	90	90	90	70	70	1,511.11	136000	
Brushing	300	150	150	150	150	1,200.00	360000	
Density spacing	0	0	0	0	0		0	
Totals hectares	2495	2345	1345	1275	1275	209.82	523500	
Seed purchase	0	0	0	0	0		0	
Prescriptions and planning							16,000	
Recommended studies	(Retro-tubing Study)						20,000	1
Total backlog program							559,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL39 - Weyerhaeuser Company Ltd.
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.
Potential volume/ha gain (m3/ha/yr) provincial factors:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize
0.50	0	0.5	0	2.0	0.5	0	0	0.50

Years the factor will affect:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize
70	70	70	70	70	70	70	70	10

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.
Provincial factors for estimated value gain at harvest

Space	Prune	Fertilize
2	2	2

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.
Est. short term employment rate (person days/ha) provincial factors:

Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	Nursery Seedling Production	Silviculture Surveys
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	165		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	165		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			4,860
Total backlog surveys from the backlog table.			4,925
33% of all silviculture surveys			3,229
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply (A)			0
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			3,229
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			100
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			3,700

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity. 200

TFL39 - Weyerhaeuser Company Ltd.
Performance Measures Based on Activities Planned for 2001/2002
Based on Type 1 & Type 2 silviculture strategy, management plan & TSA analysis

	Performance Measure	Tree Improve-ment	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	165	0	3,229	225	165	510	455	95	3,600	8,974	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.50	0	0.5	0	2.0	0.5	0	0	0.50		
1.2	Years the factor will apply	70	70	70	70	70	70	70	70	10		
1.3	Pot. total merch. volume increment in 65 years (m3)	5,775	0	113,017	0	23,100	17,850	0	0	18,000		177,742
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			100								100
1.5	Est. area that will be declared as free growing (ha)			3,700								3,700
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							2	2	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	17	0	323	214	330	1,331	1,802	431	648	897	
3.3	Estimated total full time equivalent positions (FTE)	0	0	2	1	2	7	10	2	4	5	33
4.1	**Forest Health Enhancement (ha)**											520
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											20
5.3	Est. area with secondary value provided to biodiversity (ha)											200

TFL39 - Weyerhaeuser Company Ltd.
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	9,540	9,655	9,655	9,655	9,655	264	2,515,250
Planning, prescriptions and seedlings							184,000
Backlog Program Field Activities	5,825	0	0	0	0	272	1,582,125
Planning, prescriptions and seedlings							70,000
Totals	15,365	9,655	9,655	9,655	9,655		4,351,375

Performance Measures	
Potential total merchentable volume increment in 65 years	177,742 m^3
Estimated ha that will be reclassified as stocked	100 ha
Estimated ha that will be declared as free growing	3,700 ha
Estimated total full time equivalent positions generated	33 FTEs
Forest health enhancement area	520 ha
Planned area for specific wildlife forage or habitat maintenance	20 ha
Estimated area with secondary value provided to biodiversity	200 ha

Weyerhaeuser BC Coastal
FRBC Sustainable Harvest RMP
2000/01 Backgrounder

The Resource Management Plan for the 2000/01 fiscal is specifically linked to the new text of both the Management Plan #8 (TFL 39) and Management Plan #4 (TFL 44). Unfortunately the plans are only in draft form to date.

Weyerhaeuser BC Coastal Group has taken a non-conventional approach to silviculture. Silviculture activities are taking the approach of being objective driven, with the objectives not being limited to timber production.

Activities such as pruning and spacing are reliant in Weyerhaeuser on being funded activities and for multiple objectives. (refer to silviculture Regime Tables).

The silviculture activities are linked to the Management Plan requirements and the Land Use Plan requirements. Habitat enhancement/creation and Biodiversity are major issues that are proving to be the objective drivers for silviculture works. Other drivers are social, visual, and increasing volume potentials.

The Enhanced Forest Management Pilot Project, funded by FRBC is proving to be a successful pilot in the sense of developing innovative forest practices applicable across Weyerhaeuser lands. The activities such as hydro-riparian spacing, riparian restoration and old-growth recruitment are all activities that were developed through the EFMPP. Each of these activities are only applicable to specific sites and landscape units. (For more information see EFMPP reports, FRBC).

Weyerhaeuser is in the process of completing a Silviculture Type II analysis for TFL 39 (completed by Nov. 2000) and a Type I analysis for TFL 44 (completed Nov. 2000). Through these analysis the RMPs will be revised. Specific information on suitability of silviculture treatments linked to the Timber Supply Review and tested with sensitivity analysis will be available.

TYPE II Silviculture Analysis

This is a list of the silviculture Regimes that are being applied to the TFL 39 Management Plan Timber Supply analysis for testing.

List of stand objectives and treatments:

Objective 1 – blocks 1,2,3,4,5,6,7
Increase total volume production
Candidate stands: Fdc, SI27+
Hw, SI 27+
Fill mid-term timber supply dip (different timings by block)
Treatment regime: fertilize appropriately aged stands on a 7-year cycle
Treatment regime: *Fdc*: improved seed and brushing treatments for new stands, juvenile space stands over 5000sph to 1200sph at age 15, fertilize three times, net gain 50m3/ha
Hw: three establishment scenarios:
FAP with improved seed, 0 regen delay
50% natural, fill plant FAP, 2yr regen delay
85% natural, 5 yr regen delay
Plus SCHIRP – fertilizing Hw, blocks 3,4,6

Objective 2 – blocks 1,2,3,4,5,6,7
Production of premium log sizes
Candidate stands: *Fdc*: SI 27+
Hw; SI 27+
Treatment Regime:
Fdc: improved seed and fertilize at planting (FAP) for new stands, juvenile space to 1200 sph at age 15 followed by fertilization on a 7-year cycle, pole thinning at age 40 and commercial thinning at age 60
Hw: juvenile space stands over 7500sph to 600, 1200 or 1700 sph, reduce to best density, check Xeno output

Objective 3 – Blocks 1,2
Production of clear wood volume
Candidate Stands: *Fdc:* SI 27+
Treatment Regime:
Juvenile space to 400 or 800 sph at age 15, prune two lifts to 5.5m. total pruned height, fertilize on a 7-year cycle

Objective 4 – Blocks 1,2,3,4
Old Growth recruitment for biodiversity*
Candidate stands: *Fdc & Hw* – all sites >40 years old
Treatment Regime:
Variable density pole and commercial thinning at age 40+
*expected benefit of old-growth stand structure by 110 years of age

Objective 5 – Blocks 1,2
Enhance timber species value – show F/H mix over time
Candidate stands: *Hw*: SI 27+
Treatment regimes:
Regenerate +/- 50% to Fdc type
Plant Fdc, Cwr or Yc with improved seed, FAP, juvenile space Hw at age 10-14
NOTE: volume increases due to fertilization – 7-year terms = 50m3/ha.

Weyerhaeuser BC Coastal Group
Sustainable Harvest – Performance Measures Assumptions

The following assumptions were used when calculating the effects of various treatments on volume and value for Weyerhaeuser BC Coastal Group.

AAC: the AAC for the Crown, regulated lands (including small business) is approximately 5.7 million m3
Annual Harvest: 8000ha/yr.

Volume & Value

Tree Improvement
- Estimate 85% of the crown lands in the TFL are planted with A-class seed (Fdc 95%)
- An average of 4-5% volume gain is estimated over a rotation. (averaging across Species)

Silviculture Surveys
- The potential volume gain from surveys from improved stocking and productivity is estimated at 0.25m3/ha/yr. Over a 65 year rotation

Backlog Planting
- The potential volume gain from planting NSR areas is estimated at 2.0m3/ha/yr over a 65 year rotaion

Backlog Brushing
- The potential volume gain from brushing impeded backlog areas is estimated at 0.5 m3/ha/yr over a 65 year rotation

Spacing
- Assumes 0 m3/ha/yr but over a rotation but 2% value gain over untreated (see regime tables for use of spacing)

Fertilization
- On average a 0.5m3/ha/yr over a 65 year rotation and a 5% improvement in total value at harvest

Pruning
- On average a 2% value gain over a rotation over untreated (see regime table for use of pruning)

Weyerhaeuser - Sunshine Coast
Silviculture Regimes Table 2001/02

Regimes	Opportunity Area Ha/Yr	Timber Supply Effects			Quality	Habitat			Direct Cost $/ha	Rank
		short	medium	long		OG	Riparian	Wildlife		
BACKLOG										
Surveys	450	+	0	0	0	0	0	0	25	1
- free growing; brushing assess, layouts, prescriptions										
Planting	10	0	0	+	+	0	0	0	1100	1
- NSR areas and landings										
Brushing	30	0	0	0	0	0	0	0	1000	1
- alder girdling										
Site Rehab	40	0	++	+	0	0	++	++	3000	1
- Riparian Restoration: 13-35 yrs. Riparian reserve areas; ; where no buffers along creeks, and high fish values ; old growth recruitment										
Site Reforestation	40	0	+	+	0	0	0	0	1100	1
- areas not adequately restocked due to snow damage										
ENHANCED										
Surveys	300	+	0	0	0	0	0	0	40	1
- spacing, fertilization and pruning surveys										
Spacing	50	0	++	0	+	++	++	++	2000	2
- Fdc; SI 27+ with >5000sph; age 15; space to 1200sph - Cw, Yc, Hw stands; SI 27+ with >5000sph; age 15										
Pruning		0	0	0	+	0	0	+	2150	2
- stands of <1000sph; SI 27+; spaced stands; age 12-17 ; species preference is Fdc, Cw, Hw; two lifts to 5.5m ; preferred fertilized stands										
Forest Health Enhancement	20								2000	2
-										
Habitat and Biodiversity	10								3000	2
-										
Fertilizing	400	++	++	+	0	+	0	0	290	1
- Fdc spaced and pruned stands (Cw; Yc; Hw/Ba) - Fdc nutrient deficientof SI27+; (Cw, Yc, Hw/Ba) - Fdc stands CT and 7yrs or more to harvest age; ; (Cw, Yc, Hw/Ba)										
Studies										
- to determine short and long term iimpacts of the introduced elk on forest stands: particularily the Cwr components		++	0	+	0	0	0	+		1
- incidence and range of Balsam wooley aphid to develop a management strategy for utilization of Ba		0	0	+	0	0	0	0		2
- financial/operational implications of non use of herbicides		0	0	0	0	0	0	0		2
- timing study of manual brushing treatments on various spp		+	0	0	0	0	0	0		1

Weyerhaeuser - Campbell River District
Silviculture Regime Table 2001/02

Regimes	Opportunity Area Ha/Yr	Timber Supply Effects short	Timber Supply Effects medium	Timber Supply Effects long	Quality	Habitat OG	Habitat Riparian	Habitat Wildlife	Direct Cost $/ha	Rank
BACKLOG										
Surveys	1175	+	0	0	0	0	0	0	40	1
- free growing; brushing assess, layouts, prescriptions										
Planting	20	0	0	+	+	0	0	0	2300	2
- NSR areas and landings										
Brushing	80	0	0	0	0	0	0	0	1000	1
- alder girdling										
Site Rehab	140	0	++	+	0	0	++	++	2850	1
- Riparian Restoration: 13-35 yrs. Riparian reserve areas; ; where no buffers along creeks, and high fish values										
ENHANCED										
Surveys	3200	+	0	0	0	0	0	0	31	1
- spacing, fertilization and pruning surveys										
Spacing	185	0	++	0	+	++	++	++	1800	1
- sanitation spacing to promote alternate spp to Ba: : stands with >500sph Ba; <30yrs.; >900sph altern. spp.										
- Intensive Fdc: remove Hw from Fdc stands: : space to 1200-1500 sph, only on slopes >40%										
- Cable Ground: space Hw of >10,000 sph, slopes >40%; ;space to 1200-1500sph, when ground CT not viable										
- Variable Density: >30yrs, riparian areas (EFMPP & OGMA)									2850	
Pruning	50	0	0	0	+	0	0	+	2000	2
- Fdc stands, spaced and visuals										
Fertilizing	2500	++	++	+	0	+	0	0	250	1
- Fdc; SI >26 with harvest age in 7-10yrs.										
- Fdc; SI >26 with harvest age in 14yrs.; 2 applications										
- Fdc; SI >26 with harvest age in 21 yrs: 3 applications										
- Hw, early age, with N+P applications	300	++	++	+	0	+	0	0	350	1
Studies										1
- fertilization regimes for vaccinium and salal sites		++	++	+	0	0	0	0		
- DWR availability by low level phototogrphy		0	+	+	0	0	0	++		

Weyerhaeuser Port McNeil District
Silviculture Regime Table 2001/02

Regimes	Opportunity Area Ha/Yr	Timber Supply Effects			Quality	Habitat			Direct Cost $/ha	Rank
		short	medium	long		OG	Riparian	Wildlife		
BACKLOG										
Surveys - free growing; brushing assess, layouts, prescriptions	1200	+	0	0	0	0	0	0	40	1
Planting - NSR areas and landings	5	0	0	+	+	0	0	0	1000	2
Brushing - alder girdling	60	0	0	0	0	0	0	0	1000	1
Site Rehab - Riparian Restoration: 13-35 yrs. Riparian reserve areas; ; where no buffers along creeks, and high fish values ; accelerating old-growth attributes; variable densities and clusters	40	0	++	+	0	0	++	++	3000	1
ENHANCED										
Surveys - spacing, fertilization and pruning surveys	1000	+	0	0	0	0	0	0	40	1
Spacing - Hw stands with >8000sph below 600m. Elev. To 1000sph	80	0	++	0	+	++	++	++	1800	2
Pruning - spaced stands of 850sph and visuals; target of 400-600sph	20	0	0	0	+	0	0	+	2400	2
Fertilizing - Cw/Hw stands; clorotic; salal sites (SCHIRP); ; successive applications every 7 yrs.	600	++	++	+	0	+	0	0	525	1

Weyerhaeuser - Mid Coast District
Silviculture Regime Table 2001/02

Regimes	Opportunity Area Ha/Yr	Timber Supply Effects			Quality	Habitat			Direct Cost $/ha	Rank
		short	medium	long		OG	Riparian	Wildlife		
ENHANCED										
Surveys	60	+	0	0	0	0	0	+	150	1
- spacing, pruning and grizzly habitat surveys										
Spacing	20	0	++	0	+	0	0	++	2600	1
- Hw stands >8000sph to 1200sph										
Pruning	10	0	0	0	+	0	0	+	2500	2
- spaced and visuals; target 400-600sph										
Habitat Supply and Biodiversity	10	0	0	0	0	0	0	++	3000	2
- grizzly bear habitat; riparian reserve areas; ; spacing for conifer clusters										

Weyerhaeuser - Queen Charlotte District
Silviculture Regime Table 2001/02

Regimes	Opportunity Area Ha/Yr	Timber Supply Effects short	medium	long	Quality	Habitat OG	Riparian	Wildlife	Direct Cost $/ha	Rank
BACKLOG										
Surveys	2100	+	0	0	0	0	0	0	40	1
- free growing; brushing assess, layouts, prescriptions										
Site Prep										
-										
Planting	70	0	0	+	+	0	0	0	2300	2
- NSR areas and landings										
Brushing	300	0	0	0	0	0	0	0	1000	1
- alder girdling										
Site Reforestation	20								2850	1
-										
ENHANCED										
Surveys	300	+	0	0	0	0	0	0	31	1
- spacing, fertilization and pruning surveys										
Spacing	100	0	++	0	+	++	++	++	1800	1
-										
Pruning	50	0	0	0	+	0	0	+	2000	2
- Fdc stands, spaced and visuals										
Fertilizing	100	++	++	+	0	+	0	0	250	1
-										
Forest Health Enhancement	500	0	+	+	0	0	0	0	50	1
-										
Studies										
- Blackheaded Budworm study of mortality and possible sol.		0	+	+	0	0	0	0		1
- Variable Density spacing trial		0	+	+	0	+	+	+		2

Weyerhaeuser - TFL 44
Silviculture Regimes Table 2001/02

Regimes	Opportunity Area Ha/Yr	Timber Supply Effects			Quality	Habitat			Direct Cost $/ha	Rank
		short	medium	long		OG	Riparian	Wildlife		
BACKLOG										
Surveys	2500	+	0	0	0	0	0	0	25	1
- free growing; brushing assess, layouts, monitoring										
Planting	200	0	0	+	+	0	0	0	1485	2
- NSR areas (eg:Ba) and landings										
Brushing	300	0	0	0	0	0	0	0	1320	1
- alder girdling; chemical for Maple; re-treatments										
Impeded Areas										
- surveys; snow damage	1100	0	0	+	0	0	0	0	25	2
Site Rehab	100	0	++	+	0	0	++	++		
- Riparian Restoration: 13-35 yrs. Riparian reserve areas; ; where no buffers along creeks, and high fish values ; possible OG recruitment										
ENHANCED										
Surveys	4000	+	0	0	0	0	0	0	28	1
- fertilization, hydro-riparian spacing and pruning surveys										
Forest Health Enhancement	50								1320	2
- Pw blister rust pruing										
Habitat Supply and Biodiversity	150									1
- non riparian treatments; forage production; Elk issues										
Fertilizing	1000	++	++	+	0	+	0	0	440	1
- Fdc; SI 27+ or areas of nutrient deficiencies										
- Cw/salal sites (SCHIRP) applications										
Studies										
- spring forage study		0	0	0	0	0	0 +			1
- old growth recruitment			0 +	+	0 +		0 +			1
- GIS aerial fertilization with micro and macro nutrient applic.		+	+	+	0	0	0	0		1

Weyerhaeuser - TFL 57
Silviculture Regimes Table 2001/02

Regimes	Opportunity Area Ha/Yr	Timber Supply Effects			Quality	Habitat			Direct Cost $/ha	Rank
		short	medium	long		OG	Riparian	Wildlife		
BACKLOG										
Surveys	2000	+	0	0	0	0	0	0	25	1
- free growing; brushing assess, layouts, monitoring										
Brushing	350	0	0	0	0	0	0	0	1320	1
- alder girdling; chemical for Maple; retreatments										
Impeded Areas										
- brushing	100								1320	2
- surveys, snow damage	100	0	0	+	0	0	0	0	25	2
Site Rehab	50	0	++	+	0	0	++	++	2860	1
- Riparian Restoration: 13-35 yrs. Riparian reserve areas; ; where no buffers along creeks, and high fish values ; possible OG recruitment										
ENHANCED										
Surveys	8000	+	0	0	0	0	0	0	28	1
- fertilization, hydro-riparian spacing and pruning surveys										
Fertilizing	300	++	++	+	0	+	0	0	440	1
- Fdc; SI 24+ or areas of nutrient deficiencies - Cw/salal sites (SCHIRP) applications										

Weyerhaeuser Company Ltd. - Historical Silviculture Treatments (ha.) FRBC

		Actual	Actual	Plan		
Forest District	**Treatment**	**1998/99**	**1999/00**	**2000/01**	**Total**	**Notes**
Sunshine Coast	BR	-	41.8	92.0	133.8	
	PR	15.2	38.0	19.0	72.2	
	JS	218.1	99.8	57.0	374.9	
	PL	-	39.2	9.0	48.2	
	SU	1,201.0	2,034.0	1,007.0	4,242.0	
	SPR	-	-	13.0	13.0	
	FE	-	-	-	-	
South Island	BR	834.5	684.6	905.0	2,424.1	2000/01 incl 190 ha TSA
	PR	75.2	36.1	-	111.3	
	JS	220.1	202.5	-	422.6	
	PL	30.0	65.6	-	95.6	
	SU	7,744.0	4,745.0	3,800.0	16,289.0	2000/01 incl 700 ha TSA
	SPR	-	-	34.0	34.0	
	FE	-	53.0	1,425.0	1,478.0	2000/01 incl 400 ha TSA
	FHT	-	-	60.0	60.0	
Campbell River	BR	121.7	185.0	96.0	402.7	
	PR	11.0	57.7	20.0	88.7	
	JS	256.1	258.2	130.0	644.3	
	PL	-	38.5	46.0	84.5	
	SU	2,362.0	3,076.0	5,825.0	11,263.0	
	SPR	-	-	50.0	50.0	
	FE	182.0	1,035.0	1,840.0	3,057.0	2000/01 incl 280 ha TSA
	LR	-	-	2.0	2.0	
	SS	1			1.0	1 silv study - Juv Spc Trials
	SS		1		1.0	1 silv study - Nutrition
	SS			1	1.0	1 silv study - Hyd Rip Spc
Port McNeill	BR	26.0	82.3	156.0	264.3	
	PR	32.4	-	-	32.4	
	JS	55.5	22.9	29.0	107.4	
	PL	-	-	5.0	5.0	
	SU	3,491.0	6,275.0	1,400.0	11,166.0	
	SPR	-	-	-	-	
	FE	536.7	387.8	520.0	1,444.5	
	TR	-	-	38.0	38.0	
Mid Coast	BR	-	-	-	-	
	PR	-	-	-	-	
	JS	-	-	30.0	30.0	
	PL	-	-	-	-	
	SU	1,110.0	-	100.0	1,210.0	
	SPR	-	-	-	-	
	FE	-	-	-	-	
Queen Charlottes	BR	472.0	567.6	608.0	1,647.6	
	PR	33.0	-	-	33.0	
	JS	154.7	67.9	100.0	322.6	
	PL	-	16.8	65.0	81.8	
	SU	705.0	3,720.0	1,300.0	5,725.0	
	SPR	-	-	36.0	36.0	
	FE	-	-	60.0	60.0	
	LR	-	-	5.0	5.0	
	SS			1	1.0	1 silv study - Retro Tubing
Summary	BR	1,454.2	1,561.3	1,857.0	4,872.5	
	PR	166.8	131.8	39.0	337.6	
	JS	904.5	651.3	346.0	1,901.8	
	PL	30.0	160.1	125.0	315.1	
	SU	16,613.0	19,850.0	13,432.0	49,895.0	
	SPR	-	-	133.0	133.0	
	FE	718.7	1,475.8	3,845.0	6,039.5	
	LR	-	-	7.0	7.0	
	TR	-	-	38.0	38.0	
	FHT	-	-	60.0	60.0	
	SS	1	1	2	4.0	Studies - not ha

2000 – 2001 Sustainable Harvest

Resource Management Plan

TFL 45

Supporting Documentation
The 2001/2002 RMP was prepared using TFL 45's Management Plan # 3 and a Type 1 Silviculture Strategy

Campbell River Forest District
Enhanced Forestry
A survey program of 150 hectares is proposed for next year and is given a priority ranking of 1. These surveys will be needed to locate the hectares for other enhanced activities. A pruning and fertilization program has been proposed for next year. These two treatments are linked together with the fertilization occurring on the pruned trees. Pruning is not considered an important activity in either the TFL Management Plan or the Type 1 silviculture Strategy so these projects are ranked lower priority.

Presently IFP is not aware of any significant Forest Health Enhancement activities that are available to do on the southern portion of the TFL.

Backlog Activities
There are no outstanding backlog activities in the southern portion of the TFL.

Port McNeill Forest District

Enhanced Forestry
A fairly aggressive survey program has been proposed for the 2001/2002 fiscal year. There are a number of potential problem stands (root disease, spruce weevil, very low densities) that need to be assessed. This activity has been given a priority ranking of 1. The stands that this program identifies will form the treatment areas for 2001 to 2003.

The northern part of TFL 45 has significant areas of Douglas fir plantations that have had density control. Many of the stands are now in the 40 to 50 year age bracket. Broadcast aerial fertilization is not identified in the Management Plan as a Base Case assumption but it was classified as a good investment n the Type 1 silviculture Strategy. It has therefore been classified as priority 2 treatment.

Backlog Activities

A very large natural slide occurred in Glacier Bay, Knight Inlet. This slide has been assessed and it has been determined that 70 hectares are plantable.

Forest Health Enhancement

No activities are planned in 2001/2002. It is expected that treatments will be identified for this category but no work is planned until 2002/2003

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement. The template design allows completion in a consistent format for all management units across the province. Consistent completion allows tables to be merged to form higher level Sustainable Harvest summaries.

Note that more than one set of tables may be needed for one management unit.
For example, where a management unit extends across districts A and B,
a) Prepare a set of tables for the portion of the Management Unit in district "A".
b) Prepare a second set of tables for the portion of the Management Unit in district "B".
c) Prepare a third set of tables for the overall Management Unit.
Multiple districts that make up a management unit will be summarized by the region.

The name will automatically appear in the heading of the tables:

1) **Type the Management Unit name here:** TFL 45, Campbell River

2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

TFL 45, Campbell River
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities

Stand Tending

	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	75	0	0	0	0	75.00	5625	1
Spacing	0	50	0	50	0	0.00	0	1
Pruning	50	50	50	50	50	2000.00	100000	3
Fertilizing	50	500	0	500	0	300.00	15000	2
Other	0	0	0	0	0	0.00	0	
Totals hectares	175	600	50	600	50	689.28	120,625	
Planning and prescriptions							15,000	
Total dollars							135,625	

Forest Health Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	75	0	0	0	0	75.00	5,625	
Spacing	0	50	0	50	0	0.00	0	
Pruning	50	50	50	50	50	1,999.96	100,000	
Fertilizing	50	500	0	500	0	300.00	15,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	175	600	50	600	50	689.25	120,625	
Planning and prescriptions							15,000	
Studies funding							0	
Total dollars							135,625	

12/28/2005

TFL 45, Campbell River
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total impeded areas							0	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							0	
Recommended studies							0	
Total backlog program							0	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 45, Campbell River
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on Type 1 silviculture strategy

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improve-ment	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.05	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improve-ment	Nursery Seedling Production	Silviculture Surveys
A Tree improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	0		
Enter area of all other sites planted with improved trees	0		
Total area affected by tree improvement	0		
B Nursery production of seedlings			
Enter sowing requests from SPAR		0	
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			75
Total backlog surveys from the backlog table.			0
33% of all silviculture surveys			25
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			75
Estimate of total surveys that will affect timber supply			(A) 75
Surveyed area that will affect timber supply Replace with (A) if a more exact estimate is calculated			75
Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR) Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002			0
Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas) Estimate area that will be classified as free growing after a survey in 2001/2002			75

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

TFL 45, Campbell River
Performance Measures Based on Activities Planned for 2001/2002
Based on Type 1 silviculture strategy

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	0	0	75	0	0	0	0	50	50	175	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	0	0	1,219	0	0	0	0	0	1,500		2,719
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			75								75
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.05	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	4	0	0	0	0	227	9	18	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	0	1	0	0	1
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

TFL 45, Campbell River
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	175	600	50	600	50	689	120,625
Planning, prescriptions and seedlings							15,000
Backlog Program Field Activities	0	0	0	0	0	0	0
Planning, prescriptions and seedlings							0
Totals	175	600	50	600	50		135,625

Performance Measures	
Potential total merchentable volume increment in 65 years	2,719 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	75 ha
Estimated total full time equivalent positions generated	1 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

This set of tables has and will continue to evolve based on client recommendations for improvement.
The template design allows completion in a consistent format for all management units across the province.
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2) Enter Data into the enhanced forestry table and the backlog program table

3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

TFL 45 Summary
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
Stand Tending	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	375	200	200	200	200	75.00	28125	1
Spacing	0	100	0	100	0	0.00	0	1
Pruning	50	50	50	50	50	2000.00	100000	3
Fertilizing	550	1000	500	1000	500	300.00	165000	2
Other	0	0	0	0	0	0.00	0	
Totals hectares	975	1350	750	1350	750	300.64	293,125	
Planning and prescriptions							30,000	
Total dollars							323,125	

Forest Health Enhancement

Spacing	0	0	0	0	0	0.00	0
Pruning	0	0	0	0	0	0.00	0
Other treatments	0	50	50	50	50	0.00	
Totals hectares	0	50	50	50	50	0.00	0

Habitat Supply and Biodiversity Enhancement

Riparian treatments	0	0	0	0	0	0.00	0
Non-riparian treatments	0	0	0	0	0	0.00	0
Totals hectares	0	0	0	0	0	0.00	0

Domestic Range

Treatments	0	0	0	0	0	0.00	0

Enhanced Forestry Activities - Management Unit Total

Surveys	375	200	200	200	200	75.00	28,125
Spacing	0	100	0	100	0	0.00	0
Pruning	50	50	50	50	50	1,999.96	100,000
Fertilizing	550	1,000	500	1,000	500	300.00	165,000
Other stand tending activities	0	50	50	50	50	0.00	0
Totals hectares	975	1350	750	1350	750	300.64	293,125
Planning and prescriptions							30,000
Studies funding							0
Total dollars							323,125

12/28/2005

TFL 45 Summary
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	70	0	70	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	70	0	0	0	0	1,400.00	98000	1
Brushing	0	0	70	0	70	#DIV/0!	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	70	70	70	70	70	1,399.96	98,000	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							98,000	
Backlog Reforestation								
Surveys	0	0	0	0	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total backlog reforestation							0	
Impeded areas								
Surveys	0	75	0	0	0	0.00	0	1
Brushing	75	0	50	0	0	1,500.00	112500	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	75	75	50	0	0	1,499.96	112,500	
Prescriptions and planning dollars							10,000	1
Total impeded areas							122,500	
Site Restoration								
Fill planting	0	0	0	0	0	0.00	0	
Rehabilitation	0	0	0	0	0	0.00	0	
Reforestation	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning dollars							0	
Total site restoration							0	
Backlog Program Activities - Management Unit Total								
Surveys	0	145	0	70	0	0.00	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	70	0	0	0	0	1,399.94	98000	
Brushing	75	0	120	0	70	1,499.98	112500	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	145	145	120	70	70	1,451.61	210500	
Seed purchase	0	0	0	0	0	0.00	0	
Prescriptions and planning							10,000	
Recommended studies							0	
Total backlog program							220,500	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 45 Summary
Instructions for developing the Performance Measures Table for FRBC Investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on Type 1 silviculture strategy

The following default provincial factors may be replaced by management unit specific factors.

The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	6.0	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.05	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys

Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

Area		
Tree Improvement	Nursery Seedling Production	Silviculture Surveys

A Tree Improvement
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002
Backlog area planted from backlog table 70
Enter area of all other sites planted with improved trees 0
Total area affected by tree improvement 70

B Nursery production of seedlings
Enter sowing requests from SPAR 0

C Silviculture surveys
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.
These potentially provide improved estimates of site productivity and operational yield adjustment factors
Total EFP surveys from the EFP table 375
Total backlog surveys from the backlog table. 0
33% of all silviculture surveys 124

Optionally, you may provide a more exact estimate:
Estimate area of regen delay surveys
Estimate area of free growing surveys
Estimate area of pre-stand tending surveys 375
Estimate of total surveys that will affect timber supply (A) 375

Surveyed area that will affect timber supply 375
Replace with (A) if a more exact estimate is calculated

Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002 0

Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)
Estimate area that will be classified as free growing after a survey in 2001/2002 200

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity.

TFL 45 Summary
Performance Measures Based on Activities Planned for 2001/2002
Based on Type 1 silviculture strategy

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	70	0	375	0	70	75	0	50	550	1,190	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	6.0	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	3,504	0	6,094	0	27,301	1,219	0	0	16,500		54,617
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			200								200
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.05	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	7	0	19	0	140	196	0	227	99	119	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	1	1	0	1	1	1	4
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

TFL 45 Summary
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	975	1,350	750	1,350	750	301	293,125
Planning, prescriptions and seedlings							30,000
Backlog Program Field Activities	145	0	0	0	0	1,452	210,500
Planning, prescriptions and seedlings							10,000
Totals	1,120	1,350	750	1,350	750		543,625

Performance Measures

Potential total merchentable volume increment in 65 years	54,617 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	200 ha
Estimated total full time equivalent positions generated	4 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

TFL Forest Limited - FRBC MYA CON 0001069 PAM98505

RESOURCE MANAGEMENT PLAN

SUSTAINABLE HARVEST STRATEGIC OBJECTIVE

TFL 47 (portion within the Campbell River Forest District)

2001/2002 to 2005/2006

This document and the attached tables recommend sustainable harvest activities in the portion of TFL 47 located within the Ministry of Forests Campbell River Forest District to support the FRBC Sustainable Harvest Strategic Objective.

TFL 47 is held by TFL Forest Ltd (TimberWest).

Areas within the TSA, within or adjacent to areas where TimberWest operates, are not included in this plan.

The RMP for TFL 47, prepared in 1999, was revised by TimberWest Divisional Foresters to produce this Plan.

Despite increasing site-specific knowledge, most backlog, enhanced and forest health treatment areas were not identified on the ground at the time this RMP was prepared. It is expected that strategic planning and field surveys being done in 2000/2001 will identify most treatment areas for 2001/2002 and a portion of the areas to be treated in subsequent years.

General biodiversity / habitat supply plans and plans for rare, endangered or regionally significant species are not expected to be completed in 2001 however this initiative remains a priority. Planning for treatments will be initiated when TimberWest determines the strategy to guide activities on the TFL.

REFERENCES AND ANALYSES

This plan is based on:

1. TimberWest Forest Limited, TFL 47 Management Plan No. 2, December 1996;
2. Timber Supply Analysis, September 1996, Appendix III to Management Plan No. 2;
3. Information Report No. 2 - TFL 47 Management Plan No. 2, Density Management: Assumptions in Timber Supply Analysis and Relationships to Future Product Opportunities;
4. Information Report No. 3 - TFL 47 Management Plan No. 2, Relationships between yield analysis assumptions, harvest strategies and stand management practices;
5. BC Ministry of Forests, TFL 47 Rationale for allowable annual cut determination, December 1996;

6. McWilliams, E.R.G. and R.E. Carter, 1998. Silviculture Investment Opportunities: A Methodology for Identifying Key Decision Variables. FRBC No. HQ96463-RE
7. Backlog and Enhanced Forestry Strategies within TFL 47. B.A. Blackwell and Associates Ltd. 1999.
8. Statement of Management Objectives, Options and Procedures. TFL No. 47. Management Plan No. 3. 1999
9. Draft Timber Supply Analysis, June 2000, Appendix III to Management Plan #3

It is important to note that the portions of TFL 47 on Hanson Island, West Cracroft Island and East Cracroft Island, are included in the area administered by the Port McNeill Forest District but are compiled and analyzed in the above documents as part of the Johnstone Straits Management Unit. Timber supply analysis was not redone to conform to Forest District boundaries for this Resource Management Plan. Area on these islands is included in the recommended activities within the Port McNeill Forest District.

DESCRIPTION OF THE JOHNSTONE STRAITS MANAGEMENT UNIT

The following paragraph is paraphrased from BC Ministry of Forests, TFL 47 Rationale for allowable annual cut determination, December 1996. Area and harvest volume estimates are in accordance with the 2000 Analysis.

The Johnstone Straits management unit is located on the islands and peninsulas that protrude into Johnstone Straits, which separates northern Vancouver Island and the British Columbia mainland. The unit extends along the strait to include the islands and portions of the mainland coast from the northwestern parts of Quadra Island in the south, to include Hanson Island in the north. This unit surrounds or is in the vicinity of Campbell River and Sayward. A significant component of harvesting operations in this management unit are camp-based. The management unit is characterized by coastline with mountainous, but not especially rugged or steep terrain. The majority lies within the Coastal Western Hemlock biogeoclimatic zone with small portions in the Mountain Hemlock zone. The total land base of the Johnstone Strait unit is 101,847 ha of which 71,313 hectares is considered part of the timber harvesting land base. Timber harvesting in this management unit began in the early 1900s along the coastline and moved inland as technological innovations allowed. The current AAC for the management unit is 425,000 cubic meters (effective December 1, 1996). The proposed AAC is 528,326 cubic meters.

Basic Data

Total area	101,847 ha
Net harvestable area	71,313 ha
Recommended AAC	528,326 m3

(Following data is pertinent to the entire Johnstone Straits Management Unit)

Site Class Profile

Site class	Percent
10	4.2%
15	13.1%
20	10.4%
25	28.8%
30	25.6%
35	15.4%
40	2.5%
	100.0%

Species Profile

Lead species	Percent
Ba	0.6%
Cw	4.8%
Dr	5.3%
Fd	26.3%
Hw	59.3%
Mb	0.0%
Pl	2.0%
Ss	0.0%
Yc	1.7%
	100.0%

Age Class Profile

Age Range	Percent
0-9	5.5%
10-19	11.1%
20-29	5.9%
30-39	8.6%
40-49	4.6%
50-59	5.2%
60-69	23.2%
70-79	13.6%
80-89	4.1%
90-99	3.4%
100-109	0.9%
110-119	0.7%
120-129	0.5%
130-139	0.3%
140-149	0.2%
250+	12.2%
	100.0%

Silviculture History

See attached table

Harvest Forecast (entire Johnstone Straits Management Unit)

The 2000 harvest forecast projects a long-term harvest rate of about 525,000 cubic meters. Most of this harvest will be from second growth stands.

Management Plan No. 3 is in process of development. Pertinent inventories and strategies will be used to develop and refine this sustainable harvest plan.

RECOMMENDED PROGRAM

Objective: Return on investment

Optional silvicultural investments on the Johnstone Straits management unit are directed first to generate a positive financial return.

Planned activities:

1. Fertilization of Douglas-fir (Fd) at various stages of the harvest rotation. The annual program is anticipated to be approximately 600 hectares per year. There are potentially three applications:

- Aerial application at any point in the rotation. This is a continuation of the current fertilizing program. There could be repeat treatments of areas treated in 1999.

- Manual fertilization of late rotation Fd. This will include areas retained after commercial thinning and variable retention harvesting as well as some areas with no associated harvesting.

- Manual fertilization of early rotation Fd. Annual program will be primarily on areas being brushed or spaced. Program may also include untreated Fd areas.

2. Brushing of impeded stands. Area limited. Substantial area of F-G surveys required to locate these areas. Survey balance of area remaining after large survey program in 2000.

3. Reforestation of backlog and industry outstanding areas. Focus on area lost to roads and trails. Area may not be treated under EEV. Area very limited. Expect to complete all identified areas in 2001/2002.

4. Juvenile spacing, primarily to increase the Fd component of mixed fir and hemlock stands. Modest area available but free-growing stands coming on-line. This program is planned to continue annually.

5. Spacing, perhaps pruning and fertilization to encourage development of desired habitat conditions. The objective is to ensure the availability of areas supplying desired forest characteristics while maximizing current and future harvest opportunities. Identification of candidate areas for treatment requires species and / or biodiversity plans. These planning initiatives are not yet underway so no work is scheduled.

6. Additional treatments with positive financial return will be incorporated into plan when (if) identified.

Objective: **Increase stand windfirmness to allow future harvest pattern flexibility and maximize harvest opportunity.**

Planned activities.

1. Spacing and thinning of dense stands to increase windfirmness. Target areas are those to be harvested under variable retention systems or commercially thinned; applicable particularly to:

- recreation areas,
- areas adjacent to individual residences or population centers,
- areas with increased water quality emphasis such as riparian management zones and domestic water supplies,
- areas constrained for visual objectives and,
- gullied terrain.

No strategies or plans for this treatment have been developed as yet. No work is scheduled.

Studies.

Four studies are proposed:

1. To determine most effective control method for Scotch Broom. $6,000 to establish trial plots. $3000 to assess in year one and two. This study should lead to an active treatment program by 2002/03.

2. To document cost and yield effect of mechanical roadside fertilization in areas commercially thinned and areas harvested under variable retention systems. $6,000 to establish (second installation, first installed in 2000), $4,000 to assess (years 1 and 3 after establishment).

3. To continue a study initiated by TimberWest to document the effect of variable retention silviculture systems on all wildlife and plant species present on the area prior to harvesting. Two cutblocks on Quadra Island were used for this study. Baselines will have to be re-established and both areas will have to be re-inventoried. This should be a two-year study, with a total budget of $30,000.

4. To continue a study initiated by Manny Vaartnou to replace commercial grass and legume seed used in re-vegetation with native grass species. This is a continuation of a study initiated five years ago. Other licensees involved in the study include Weyco, WFP, Weldwood, Long Beach Model Forest and the MoF Small Business Program. TimberWest's portion of the funding requirements are estimated at $19,000 per year for the next five years.

Working Targets

1. Increase yields in short, medium and long term in direct proportion to area fertilized, rehabilitated, and brushed. All projects to yield a positive return on investment.

2. Increase proportion of Fd - dominant second growth stands by 30 ha / year through spacing.

3. Develop stand structures that allow greater harvest flexibility in the medium and long term to support landscape, biodiversity, recreation, and water quality objectives.

Regime table attached.

Instructions

Technical instructions are provided in the Guidelines for the Sustainable Harvest Objective found at http://www.for.gov.bc.ca/cpp/rmpguidelines/

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3) Make changes to the Input Performance Measures Table
Changes are linked to the Print Performance Measures table to be included with the RMP.

4) Summary Table for Management Unit
The Enhanced Forestry Table, the Backlog Program Table and the Performance Measures Table are summarized on the spreadsheet "Management Unit Summary."

TFL 47 - Portion in Campbell River FD
Enhanced Forestry Table
For the 2001/02 Fiscal Year

Stand Tending

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	500	400	300	200	100	40.00	20000	1
Spacing	50	50	50	50	50	2000.00	100000	2
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	600	600	600	600	600	300.00	180000	1
Other	0	0	0	0	0	0.00	0	
Totals hectares	1150	1050	950	850	750	260.87	300,000	
Planning and prescriptions							20,000	1
Total dollars							320,000	

Forest Health Enhancement

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Spacing	0	0	0	0	0	0.00	0	
Pruning	0	0	0	0	0	0.00	0	
Other treatments	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	

Habitat Supply and Biodiversity Enhancement

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Riparian treatments	0	0	0	0	0	0.00	0	
Non-riparian treatments	0	0	0	0	0	#DIV/0!	0	
Totals hectares	0	0	0	0	0	0.00	0	

Domestic Range

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Treatments	0	0	0	0	0	0.00	0	

Enhanced Forestry Activities - Management Unit Total

Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Surveys	500	400	300	200	100	40.00	20,000	
Spacing	50	50	50	50	50	1,999.96	100,000	
Pruning	0	0	0	0	0	0.00	0	
Fertilizing	600	600	600	600	600	300.00	180,000	
Other stand tending activities	0	0	0	0	0	0.00	0	
Totals hectares	1150	1050	950	850	750	260.87	300,000	
Planning and prescriptions							20,000	
Studies funding							27000	1
Total dollars							347,000	

12/28/2005

TFL 47 - Portion in Campbell River FD
Backlog Program Table
For the 2001/02 Fiscal Year

Activities	Treatment Area Goals (ha)					Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)	Priority
Legal Obligations								
Surveys	0	0	0	0	0	#DIV/0!	0	
Site preparation	0	0	0	0	0	0.00	0	
Planting	0	0	0	0	0	0.00	0	
Brushing	0	0	0	0	0	0.00	0	
Max. density spacing	0	0	0	0	0	0.00	0	
Totals hectares	0	0	0	0	0	0.00	0	
Seed purchase	0	0	0	0	0	0.00	0	
Total legal obligations							0	
Backlog Reforestation								
Surveys	100	100	0	0	0	30.00	3000	2
Site preparation	4	4	0	0	0	750.00	3000	2
Planting	4	4	0	0	0	1,000.00	4000	2
Brushing	0	4	4	0	0	0.00	0	2
Totals hectares	108	112	4	0	0	92.59	10,000	
Seed purchase	4000	4000	0	0	0	0.63	2,500	2
Prescriptions and planning dollars							1,200	2
Total backlog reforestation							13,700	
Impeded areas								
Surveys	800	200	200	200	200	30.00	24000	1
Brushing	20	20	20	20	20	1,500.00	30000	1
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	820	220	220	220	220	65.85	54,000	
Prescriptions and planning dollars							2,000	1
Total impeded areas							56,000	
Site Restoration								
Fill planting	0	0	0	0	0	#DIV/0!	0	
Rehabilitation	6	6	6	6	6	3,333.33	20000	2
Reforestation	0	0	0	0	0	#DIV/0!	0	
Totals hectares	6	6	6	6	6	3,333.33	20,000	
Seed purchase	6,000	6000	6000	6000	6000	0.50	3,000	1
Prescriptions and planning dollars							2,500	1
Total site restoration							25,500	
Backlog Program Activities - Management Unit Total								
Surveys	900	300	200	200	200	30.00	27000	
Site preparation	10	10	6	6	6	2,299.77	23000	
Planting	4	4	0	0	0	999.75	4000	
Brushing	20	24	24	20	20	1,499.85	30000	
Density spacing	0	0	0	0	0	0.00	0	
Totals hectares	934	338	230	226	226	89.94	84000	
Seed purchase	10000	10000	6000	6000	6000	0.55	5500	
Prescriptions and planning							5,700	
Recommended studies							0	
Total backlog program							95,200	

* Seed purchase includes seedlings purchase. Units are number of seedlings, or specify.

TFL 47 - Portion in Campbell River FD
Instructions for developing the Performance Measures Table for FRBC investments
For the 2001/02 Fiscal Year

This spreadsheet allows for calculation of key performance measures for activities under the Sustainable Harvest Objective.
FRBC requires completion of the Performance Measures Table to illustrate the impact of funding the proposed activities in this RMP.
For more information on how to use more management unit specific factors contact Frank Barber (250) 387-8906.
Entries needed are in red

Related Goal: Silviculture investment decisions will be guided by forest-level stewardship plans in 100 per cent of management units.
Please replace the following linked table title with the type of stewardship plan that guided the creation of this RMP:
Based on (Type 1, Type 2 silviculture strategy or specify if other)

The following default provincial factors may be replaced by management unit specific factors.
The following factors are used to generate the table. **Please replace these factors with localized factors where available.**

1) Related goal: Over the next five years, Forest Renewal BC's investments to improve timber volume will increase the timber available for potential future harvest by 25 million cubic metres. (m3/ha/yr times ha times years gives m3)
Estimates of annual growth rate increase from each type of treatment over no treatment.

2) Related goal: The economic value of timber on all enhanced forestry treatment areas will be increased by between 5% and 30%.

3) Corporate commitment to employment
Enter an estimate for each activity of the number of 8 hour person days that are required to complete the activity per hectare.

	Tree Improvement	Nursery Seedling Production	Silviculture Surveys	Site Preparation	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin
Potential volume/ha gain (m3/ha/yr) provincial factors:	0.77	0	0.25	0	1.9	0.25	0	0	0.46	
Years the factor will affect:	65	65	65	65	65	65	65	65	65	
Provincial factors for estimated value gain at harvest							7	20	2	
Est. short term employment rate (person days/ha) provincial factors:	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1

Area affected by tree improvement, seedling production and silviculture surveys
Most of the information required to calculate performance measures is from links to the enhanced forestry and backlog tables.
The following additional information is needed for tree improvement, seedling production and silviculture surveys

	Area		
	Tree Improvement	**Nursery Seedling Production**	**Silviculture Surveys**
A Tree Improvement			
Estimate of the total number of hectares that will be planted with genetically improved seed, all funding sources, in 2001/2002			
Backlog area planted from backlog table	4		
Enter area of all other sites planted with improved trees			
Total area affected by tree improvement	4		
B Nursery production of seedlings			
Enter sowing requests from SPAR			
C Silviculture surveys			
Provincially, it is estimated that 33% of all silviculture surveys are for stocking and site productivity.			
These potentially provide improved estimates of site productivity and operational yield adjustment factors			
Total EFP surveys from the EFP table			500
Total backlog surveys from the backlog table.			900
33% of all silviculture surveys			462
Optionally, you may provide a more exact estimate:			
Estimate area of regen delay surveys			
Estimate area of free growing surveys			
Estimate area of pre-stand tending surveys			
Estimate of total surveys that will affect timber supply			(A) 0

Surveyed area that will affect timber supply
Replace with (A) if a more exact estimate is calculated: 462

Related goal: 25,000 hectares will be added back to the commercial forest base through surveys and planting (backlog NSR)
Estimated area that was NSR projected to be reclassified as SR after survey in 2001/2002: 0

Related goal: 125,000 hectares of previously planted land will be brought to free growing status (impeded areas)
Estimate area that will be classified as free growing after a survey in 2001/2002: 0

Habitat Supply
Melp staff professional judgement used to estimate this performance measure
Area where additional value provided to habitat/biodiversity resulting from enhanced forestry activity: 0

TFL 47 - Portion in Campbell River FD
Performance Measures Based on Activities Planned for 2001/2002
Based on (Type 1, Type 2 silviculture strategy or specify if other)

	Performance Measure	Tree Improvement	Nursery Seedling Production	Silv. Survey	Site prep.	Backlog Plant	Brush	Space	Prune	Fertilize	Support staff and admin	Totals
	Inputs											
A	**Planned treatment area (ha) in 2001/2002**	4	0	462	10	4	20	50	0	600	1,150	
1.0	**Timber Supply**											
1.1	Potential volume/ha gain (m3/ha/yr)	0.77	0	0.25	0	1.9	0.25	0	0	0.46		
1.2	Years the factor will apply	65	65	65	65	65	65	65	65	65		
1.3	Pot. total merch. volume increment in 65 years (m3)	200	0	7,508	0	494	325	0	0	18,000		26,527
1.4	Est. yrs reduced to achieve management objectives	5-10	1-3	5-10	0	5-20	5	5-30	0	5-10		
1.4	Est. area that will be reclassified as stocked (ha)			0								0
1.5	Est. area that will be declared as free growing (ha)			0								0
2.0	**Wood Value**											
2.1	Percent improvement in total value at harvest (Compared to no treatment)							7	20	2		
3.0	**Employment**											
3.1	Estimated short term employment (person days/ha)	0.1	0.34	0.1	0.95	2	2.61	3.96	4.54	0.18	0.1	
3.2	Estimated total employment (person days/year)	0	0	46	10	8	52	198	0	108	115	
3.3	Estimated total full time equivalent positions (FTE)	0	0	0	0	0	0	1	0	1	1	3
4.1	**Forest Health Enhancement (ha)**											0
5.1	**Habitat Supply**											
5.2	Planned area for specific wildlife forage or habitat maintenance in 2001/2002 (ha)											0
5.3	Est. area with secondary value provided to biodiversity (ha)											0

TFL 47 - Portion in Campbell River FD
Management Unit Summary Table
For the 2001/02 Fiscal Year

	Treatment Area Goals (ha)					Plan 2001/02	
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($/ha)	Funding ($)
Enhanced Forestry Program Field Activities	1,150	1,050	950	850	750	261	300,000
Planning, prescriptions and seedlings							47,000
Backlog Program Field Activities	934	0	0	0	0	90	84,000
Planning, prescriptions and seedlings							11,200
Totals	2,084	1,050	950	850	750		442,200

Performance Measures

Potential total merchentable volume increment in 65 years	26,527 m^3
Estimated ha that will be reclassified as stocked	0 ha
Estimated ha that will be declared as free growing	0 ha
Estimated total full time equivalent positions generated	3 FTEs
Forest health enhancement area	0 ha
Planned area for specific wildlife forage or habitat maintenance	0 ha
Estimated area with secondary value provided to biodiversity	0 ha

APPENDIX 7

WOODLOTS

Woodlot Enhanced Silviculture Ranking

Woodlot Licence #: 1

Project Details:	
Type:	Spacing
Area:	10
Cost/Unit:	$500
Cost:	$5,000

Ranking:				
	Possible Score	**Score**	**Multiplier**	**Pro-rated Score**
RMP Priority	*	4	35	140
Urgency	1 (low) to 5 (high)	3	30	90
Readiness	1 to 5	2	25	50
Funding History	1 to 5	3	15	45
			Total Score:	325

**5 securing investments/NSR backlog*
4 fertilizing
3 spacing
2 pruning

Comments:

SMP done last year. Project is ready to go and will be completed by the licensee.

Forest Renewal BC Enhance Forestry WL Workplan for the Vancouver Region Planning Unit:

Treatment workplan for the 2000/2001 fiscal year

	District	Questionnaire	Schedule	Surveys		Prescription		Site Preparation		Planting		Brushing		Spacing		Pruning		Fertilization		Score	Comments
W L #		Completed?	A or B	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost	Ha.	Cost		
45	CH	Yes	B									5.0	3,714							495	Brushing work. Check to see that a prescription is in place.
CH District	CH	No	B	51.0	1,020	51.0	2,448													460	Funding to complete approximately 2 surveys and prescriptions for future work.
38	CH	Yes	B											18.0	12,600					395	spacing, SMP in place
45	CH	Yes	B											15.7	17,270					395	spacing, SMP in place
45	CH	Yes	B	2.3	300	2.3	1,000													380	Survey/prescription for rehabilitation work
38	CH	Yes	B													15.9	15,407			360	Pruning project. SMP is done.
1	CH	No	B	16.4	500	16.4	1,200													358	Survey/Pres. for potential spacing and pruning project.
43	CH	No	B											2.6	1,800	2.6	2,200			323	Spacing/pruning project. SMP is completed.
CH	**subtotals**			**69.7**	**1,820**	**69.7**	**4,648**	**0.0**	**0**	**0.0**	**0**	**5.0**	**3,714**	**36.3**	**31,670**	**18.5**	**17,607**	**0.0**	**0**		
CH	**Total**	**59,459**																			
26	CR	Yes	B	26.2	520	26.2	1,400													485	surveys & SPMs for NSR work
1610	CR	Yes	B	3.0	300	3.0	1,000													465	Prescription/Prescription required for B&W and fill planting.
CR District	CR	No	B	119.0	2,380	119.0	5,706													460	Funding to complete approximately 5 surveys and prescriptions for future work.
1466	CR	Yes	B	7.8	500	7.8	1,200													455	surveys & SMP for NSR work
26	CR	Yes	B					9.0	13,500	9.0	4,500	9.0	4,500							455	NSR work pending SMP done
1466	CR	Yes	B					7.8	11,700	7.8	3,900	7.8	3,900							425	NSR work pending SMP completed in time
1639	CR	Yes	B			5.5	1,200													420	SMP for Pruning project
1466	CR	Yes	B	1.7	200	1.7	900													385	SMP/survey for spacing
1541	CR	Yes	B	6.9	1,300															325	analysis) on previously JS, pruned and fert. block due to chlorotic trees. Approximately $100 per foliage and soil sample laboratory analysis, 1 sample per Ha plus 3 samples
CR	**subtotals**			**164.6**	**5,200**	**163.2**	**11,406**	**16.8**	**25,200**	**16.8**	**8,400**	**16.8**	**8,400**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**		
CR	**Total**	**58,606**																			
1439	PN	Yes	B	38.0	2,500	46.3	3,700													480	Surveys funding for B10 (38 Ha) for $1,500 and B10 (NE corner), B35 and B44 (total 2.2 Ha) for $1,000. Prescriptions funding for B10 for $1,500 and B10 (NE corner), B35 and Block 44 for $1,200. SMP funding for fertilizing and moving cages in B10 (1.5 Ha) and B44 (6.6 Ha) for $1,000. Note - the block #s are as contained in the 1:5:000 mapping completed in 1998.
PN District	PN	No	B	34.0	680	34.0	1,632													460	Funding to complete approximately 1 or 2 surveys and prescriptions for future work.
48	PN	Yes	B	20.0	500	20.0	1,200													410	Survey/Presc. for cottonwood spacing project
48	PN	Yes	B											19.0	28,500					350	Cottonwood spacing. SMP is completed.
1439	PN	Yes	B															8.1	8,100	320	Funding for fertilizing and moving cages in B10 (1.5 Ha) and B44 (6.6 Ha) for $8,100 pending completion of an SMP this year. Note - the block #s are as contained in the 1:5:000 mapping completed in 1998
PN	**subtotals**			**92.0**	**3,680**	**100.3**	**6,532**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**19.0**	**28,500**	**0.0**	**0**	**8.1**	**8,100**		
PN	**Total**	**46,812**																			

1840	QCI	Yes	B	5.0	500	5.0	1,200													460	Survey and SMP for brushing and spacing project.
QCI District	QCI	No	B	21.0	500	21.0	1,200													460	Funding to complete approximately 1 survey and prescription for future work.
QCI	**subtotals**			**26.0**	**1,000**	**26.0**	**2,400**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**		
QCI	**Total**	**3,400**																			
46	SC	No	B	9.0	500	9.0	1,200													470	Survey/Pres. for spacing project
SC District	SC	No	B	47.0	940	47.0	2,256													460	Funding to complete approximately 3 surveys and prescriptions for future work.
1672	SC	No	B			6.0	1,200													375	Pres. for pruning project.
10	SC	No	B			15.1	1,200													375	Pres. for pruning project.
SC	**subtotals**			**56.0**	**1,440**	**77.1**	**5,856**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**		
SC	**Total**	**7,296**																			
SI District	SI	No	B	98.0	1,960	98.0	4,704													460	Funding to complete approximately 3 or 4 surveys and prescriptions for future work.
1479	SI	No	B			10.0	1,200													440	SMP for fertilization project
22	SI	No	B									3.3	3,000							440	Brushing project. Prescription is completed
12	SI	No	B	15.0	500	15.0	1,200													410	Survey to determine review fertilization needs. Prescription for future spacing project.
20	SI	Yes	B															48.0	12,000	340	Fertilizing project. SMP is completed.
1614	Si	No	B			61.0	2,440											61.0	17,019	315	Prescription and fertilizing project. Will be completed concurrently with Ministry of Forests project (aerial application)
SI	**subtotals**			**113.0**	**2,460**	**184.0**	**9,544**	**0.0**	**0**	**0.0**	**0**	**3.3**	**3,000**	**0.0**	**0**	**0.0**	**0**	**109.0**	**29,019**		
SI	**Total**	**44,023**																			
49	SQ	Yes	B									8.2	9,020							495	Survey/Prescription completed
27	SQ	Yes	B	1.5	200	1.5	1,000													495	Survey/Prescription for site prep. and planting.
15	SQ	Yes	B					3.5	5,250											480	SMP in place
40	SQ	Yes	B									2.6	1,820							480	SMP Completed
15	SQ	Yes	B									16.3	14,670							480	
1786	SQ	Yes	B	139.8	2,796	40.0	1,600													475	General surveys & prescr., ~1/3 for SMPs, WL will be awarded soon
1666	SQ	Yes	B	85.0	1,700	30.0	1,200													475	general surveys & pres., ~ 1/3 for SMPs
1684	SQ	Yes	B	55.2	1,104	18.0	1,200													460	general surveys to find out treatment needed, ~ 1/3 for SMPs
SQ District	SQ	No	B	51.0	1,020	51.0	2,448													460	Funding to complete approximately 2 surveys and prescriptions for future work.
28	SQ	Yes	B	4.0	400	4.0	1,000													425	survey & SMP for spacing
27	SQ	Yes	B					1.5	2,250	1.5	1,860									415	Site prep. and planting pending survey/prescription. Need to confirm whether licensee can secure seedlings for this fiscal year.
28	SQ	Yes	B											4.0	6,000					370	spacing pending SMP being done
1684	SQ	Yes	B											6.8	10,751					365	Spacing work. SMP in place
27	SQ	Yes	B													6.3	13,860	6.3	2,205	360	Combination fertilizing/pruning project. SMPs are completed.
1684	SQ	Yes	B															25.9	12,950	325	Fertilizing project pending SMP being done this year.
15	SQ	Yes	B											2.2	2,640					320	
40	SQ	Yes	B											19.3	23,160					320	Up to 39.9 Ha of spacing is available if funding is available.
SQ	**subtotals**			**336.5**	**7,220**	**144.5**	**8,448**	**5.0**	**7,500**	**1.5**	**1,860**	**27.1**	**25,510**	**32.3**	**42,551**	**6.3**	**13,860**	**32.2**	**15,155**		
SQ	**Total**	**122,104**																			

Region subtotals				**857.8**	**22,820**	**764.8**	**48,834**	**21.8**	**32,700**	**18.3**	**10,260**	**52**	**40,624**	**88**	**102,721**	**25**	**31,467**	**149**	**52,274**		
Estimated Total Cost for the Year for all Activities :									**341,700**												

Contingency

1466	CR	Yes	B											1.7	2,700					300	Spacing project pending SMP done this year
46	PR	Yes	B											9.0	5,200					290	Spacing project pending completion of SMP, which is to be done this year. Check cost of project as $/Ha appears to be low.
1	CH	Yes	B											5.8	9,170	5.8	11,600			273 - 330	Spacing (score 330) and pruning (score 273) projects pending completion of SMP, which is to be done this year.
1639	CR	Yes	B													5.5	10,940			255	Pruning project pending completion of SMP, which is to be completed this year.
10	PR	No	B			61.0	2,440									10.0	22,000			225	Pruning project pending completion of SMP, which is to be completed this year.
1672	PR	Yes	B													6.0	13,200			225	Pruning project pending completion of SMP, which is to be completed this year.

Current Reforestation
Part 3 of the
Resource Management Plan
for the Vancouver Forest Region

PART 3:

CURRENT REFORESTATION

3.1 Regional Current Reforestation Issues and Priorities

The Current Reforestation program funding is required to assess all fire-damaged and destroyed forest land. The funding will cover the initial costs of surveys and, if necessary, the development of silviculture prescriptions in order to reforest these areas promptly. In future years this program will also provide funds for site preparation, planting, and vegetation management.

QCI FH and CR comments.

PART 3:

CURRENT REFORESTATION

3.1 The only issue on the Islands, and it affects all proponents, is the western blackheaded budworm. The budworm is continuing to feed in this latest cyclical infestation. It is primarily too early to start to survey for mortality, so nothing is included in the table for next fiscal year, but it is for years following. See the table attached.

The budworm has defoliated 55,050ha as of the summer of 1999 (summer of 2000 numbers not available yet). Of this total, 15,840ha were severe. Most of these severely defoliated stands will have to be surveyed (some could be done cheaply through aerial ocular estimates). Some areas will experience mortality, and those patches may have to be reforested. These areas requiring reforestation will be the ones that incur silviculture costs in the future.

It is not yet possible to determine which percent of the above numbers would fall in each TFL, and in the TSA, etc. Forestry Canada has been digitising maps to determine the above hectare values. They could likely, for next year and subsequent years, separate by licencee.

For this RMP submission, nothing has been included, and no table submitted, since it is not possible to determine mortality at this time.

PART 4

FOREST HEALTH MAINTENANCE

No activities are planned in this district for this period.

Sunshine Coast TSA
Current Reforestation and Forest Health Maintenance Project Description
2001/2002

The current reforestation program scheduled for 2001/2002 is funding required to assess all damaged and destroyed forest through wildfire impacts. The anticipated program will be for assessment of approximately 100 hectares of wildfire damaged timber . This funding will cover off the initial costs of surveys and if necessary prescriptions to bring these areas back into productivity. Future years in this program funding will be required for site preparation, reforestation, and brushing.

The forest health maintenance program will fund all aerial survey costs associated with assessing annual bark bettle, defoliator, misletoe, blowdown, and root disease attacked stands. These annual helicopter surveys will map any recent and newly attacked stands and identify areas which will require further assessment through ground surveys. Projected funded for theis program includes a mix of both aerial and ground survey work.

VANCOUVER FOREST REGION
Current Reforestation
For the 2001/02 Fiscal Year

	Five-year Plan Goals (ha)					Annual Plan 2001/02		
Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Planning/surveys/prescriptions	321	265	220	100	342	$80	$25,500	H
2 Site preparation	109	0	0	0	0	350	38,000	H
3 Planting	135	0	0	0	0	1,200	162,000	H
4 Brushing	26	0	0	0	0	700	18,000	H
5 Max. density spacing	0	0	0	0	0	0	0	
6 Studies	0	0	0	0	0	0	0	
7 Other	0	0	0	0	0	0	0	
Totals hectares	591	265	220	100	342	412	243,500	
Seedling purchase	0	0	0	0	0	0	0	
Total funding							243,500	

Priority is critical, high, moderate, low

FRASER TSA
Current Reforestation
For the 2001/02 Fiscal Year

Activities	Five-year Plan Goals (ha)					Annual Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Planning/surveys/prescriptions	221	165	120	0	242	$80	$18,000	H
2 Site Preparation (snag falling)	109	0	0	0	0	350	38,000	H
3 Planting	135	0	0	0	0	1,200	162,000	H
4 Brushing	26	0	0	0	0	700	18,000	H
5 Max. density spacing	0	0	0	0	0	0	0	
6 Studies	0	0	0	0	0	0	0	
7 Other	0	0	0	0	0	0	0	
Totals hectares	491	165	120	0	242	480	236,000	
Seed purchase	0	0	0	0	0	0	0	
Total funding							236,000	

Priority is critical, high, moderate, low

STRATHCONA TSA
Current Reforestation
For the 2001/02 Fiscal Year

Activities	Five-year Plan Goals (ha)					Annual Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2 Site preparation	0	0	0	0	0	0	0	
3 Planting	0	0	0	0	0	0	0	
4 Brushing	0	0	0	0	0	0	0	
5 Max. density spacing	0	0	0	0	0	0	0	
6 Studies	0	0	0	0	0	0	0	
7 Other	0	0	0	0	0	0	0	
Totals hectares	0	0	0	0	0	0	0	
Seedling purchase	0	0	0	0	0	0	0	
Total funding							0	

Priority is critical, high, moderate, low

MID-COAST TSA
Current Reforestation
For the 2001/02 Fiscal Year

	Five-year Plan Goals (ha)					Annual Plan 2001/02		
Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2 Site preparation	0	0	0	0	0	0	0	
3 Planting	0	0	0	0	0	0	0	
4 Brushing	0	0	0	0	0	0	0	
5 Max. density spacing	0	0	0	0	0	0	0	
6 Studies	0	0	0	0	0	0	0	
7 Other	0	0	0	0	0	0	0	
Totals hectares	0	0	0	0	0	0	0	
Seedling purchase	0	0	0	0	0	0	0	
Total funding							0	

Priority is critical, high, moderate, low

KINGCOME TSA
Current Reforestation
For the 2001/02 Fiscal Year

Activities	Five-year Plan Goals (ha)					Annual Plan 2001/02		
	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2 Site preparation	0	0	0	0	0	0	0	
3 Planting	0	0	0	0	0	0	0	
4 Brushing	0	0	0	0	0	0	0	
5 Max. density spacing	0	0	0	0	0	0	0	
6 Studies	0	0	0	0	0	0	0	
7 Other	0	0	0	0	0	0	0	
Totals hectares	0	0	0	0	0	0	0	
Seedling purchase	0	0	0	0	0	0	0	
Total funding							0	

Priority is critical, high, moderate, low

QUEEN CHARLOTTES TSA
Current Reforestation
For the 2001/02 Fiscal Year

	Five-year Plan Goals (ha)					Annual Plan 2001/02		
Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2 Site preparation	0	0	0	0	0	0	0	
3 Planting	0	0	0	0	0	0	0	
4 Brushing	0	0	0	0	0	0	0	
5 Max. density spacing	0	0	0	0	0	0	0	
6 Studies	0	0	0	0	0	0	0	
7 Other	0	0	0	0	0	0	0	
Totals hectares	0	0	0	0	0	0	0	
Seedling purchase	0	0	0	0	0	0	0	
Total funding							0	

Priority is critical, high, moderate, low

SUNSHINE COAST TSA
Current Reforestation
For the 2001/02 Fiscal Year

	Five-year Plan Goals (ha)					Annual Plan 2001/02		
Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Planning/surveys/prescriptions	100	100	100	100	100	$75	$7,500	H
2 Site preparation	0	0	0	0	0	0	0	
3 Planting	0	0	0	0	0	0	0	
4 Brushing	0	0	0	0	0	0	0	
5 Max. density spacing	0	0	0	0	0	0	0	
6 Studies	0	0	0	0	0	0	0	
7 Other	0	0	0	0	0	0	0	
Totals hectares	100	100	100	100	100	75	7,500	
Seedling purchase	0	0	0	0	0	0	0	
Total funding							7,500	

Priority is critical, high, moderate, low

ARROWSMITH TSA
Current Reforestation
For the 2001/02 Fiscal Year

	Five-year Plan Goals (ha)					Annual Plan 2001/02		
Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2 Site preparation	0	0	0	0	0	0	0	
3 Planting	0	0	0	0	0	0	0	
4 Brushing	0	0	0	0	0	0	0	
5 Max. density spacing	0	0	0	0	0	0	0	
6 Studies	0	0	0	0	0	0	0	
7 Other	0	0	0	0	0	0	0	
Totals hectares	0	0	0	0	0	0	0	
Seedling purchase	0	0	0	0	0	0	0	
Total funding							0	

Priority is critical, high, moderate, low

SOO TSA
Current Reforestation
For the 2001/02 Fiscal Year

		Five-year Plan Goals (ha)					Annual Plan 2001/02		
	Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1	Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2	Site preparation	0	0	0	0	0	0	0	
3	Planting	0	0	0	0	0	0	0	
4	Brushing	0	0	0	0	0	0	0	
5	Max. density spacing	0	0	0	0	0	0	0	
6	Studies	0	0	0	0	0	0	0	
7	Other	0	0	0	0	0	0	0	
	Totals hectares	0	0	0	0	0	0	0	
	Seedling purchase	0	0	0	0	0	0	0	
	Total funding							0	

Priority is critical, high, moderate, low

RVA REGIONAL OFFICE
Current Reforestation
For the 2001/02 Fiscal Year

	Five-year Plan Goals (ha)					Annual Plan 2001/02		
Activities	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Planning/surveys/prescriptions	0	0	0	0	0	$0	$0	
2 Site preparation	0	0	0	0	0	0	0	
3 Planting	0	0	0	0	0	0	0	
4 Brushing	0	0	0	0	0	0	0	
5 Max. density spacing	0	0	0	0	0	0	0	
6 Studies	0	0	0	0	0	0	0	
7 Other	0	0	0	0	0	0	0	
Totals hectares	0	0	0	0	0	0	0	
Seedling purchase	0	0	0	0	0	0	0	
Total funding							0	

Priority is critical, high, moderate, low

Forest Health Maintenance
Part 4 of the
Resource Management Plan
for the Vancouver Forest Region

PART 4

FOREST HEALTH MAINTENANCE

4.1 Regional Forest Health Maintenance Issues and Priorities

The Vancouver Forest Region's priorities for forest health maintenance are:

- To conduct an annual aerial overview survey and submit the results in a timely manner.
- To preserve the integrity and complete ongoing operational trials and projects.
- To disseminate the result of completed trials and projects to a wide audience.
- To conduct proactive treatments to reduce the impact of pest damage as promptly as possible.

4.2 Management Unit Issues and Priorities

4.2.1 Protection of Current Inventory Sub-program

This sub-program will fund all aerial survey costs associated with assessing annual bark beetle, defoliator, dwarf mistletoe, root disease, and other pest-attacked stands. This annual survey will map recent and newly attacked stands and identify which areas require further assessment or action. Current specific risks by management unit include:

- Arrowsmith TSA – balsam wooley adelgid, western hemlock looper.
- Fraser TSA – Douglas-fir beetle, mountain pine beetle, western hemlock looper, western spruce budworm.
- Kingcome TSA – blackheaded budworm.
- Mid-Coast TSA – Douglas-fir beetle, mountain pine beetle, spruce beetle.
- Queen Charlotte TSA – blackheaded budworm.
- Strathcona TSA – conifer sawfly
- Sunshine Coast TSA – Douglas-fir beetle, mountain pine beetle, western hemlock looper.
- Soo TSA - Douglas-fir beetle, mountain pine beetle, spruce beetle, western spruce budworm.

This sub-program also provides funds for proactive treatment against disease and insect occurrences. Such treatments include pruning white pine to reduce risk of blister rust infection, and bridge tree removal or fill planting with resistant species to ameliorate root disease infections.

See relevant table and performance measures.

4.2.2 Forest Health Information Sub-program

The Vancouver Forest Region is home to numerous studies and operational trials examining many aspects of forest health. These projects are designed to answer questions primarily related to operational forest practices (e.g., host resistance to pests, post-harvest damage, etc.) or to expand our understanding of pest biology and ecology (e.g., white pine blister rust on whitebark pine). Some of the major project areas currently being undertaken include:

- White pine blister rust (western white pine) – A multi-part project the goal of which is to "re-introduce" western white pine as a viable species on the coast. This is being done through several field trials testing family resistance to blister rust, screening white pine which show desirable resistance characteristics, cone collection, controlled pollination, and establishing clone banks.
- White pine blister rust (whitebark pine) – Examination of the impact of blister rust on this very susceptible tree that serves an important role in high elevation ecosystems.
- Root disease netdowns – Revisiting inventory permanent sample plots in order to adjust the OAF 2 factor to propoerly reflect root disease-induced mortality in time for TSR III. The Fraser TSA is scheduled next.

- Stumping retrospective – To evaluate the efficacy of stumping as a root disease treatment based on examining sites stumped 15+ years ago and checking root disease incidence and tree growth.
- Tree damage & partial cut harvesting – A project examining the damage created by various types of partial cutting and the long-term impact on tree survival, wood quality, and manufactured value.
- Balsam wooley adelgid – Monitoring the progression of symptoms caused by this introduced pest. Assessing the degree of resistance or tolerance in amabilis fir.

See relevant table and performance measures.

Forest Health Maintenance Performance Measures
updated July 26, 2000
Protection of Current Inventory Sub-program:

Activity	**Unit**
Aerial Surveys - Overview	20%
Aerial Surveys - Detailed	est. % of susceptible area surveyed/ hrs flown/ ha
Ground Surveys	est. % of aerially detected infestations gd. surveyed/ ha
Treatments	est. % of currently detected infestations addressed by:
Expedited Harvesting	% / Cubic metres
Deferred and baited	% / Cubic metres / trees baited
Single Tree treatments:	% / Cubic metres
Single Tree Removal	*Cubic metres*
Fall and Burn Treatment	*Trees*
MSMA Treatment	*Trees*
Abandoned for salvage	% / Cubic metres
Unsalvagable	% / Cubic metres
Defoliator Treatment	Hectares treated

est. = roughly estimated percentage to the nearest 20%

Forest Health Information Sub-program

Activity	**Unit**
Aerial Surveys - overview*	20%
Ground Surveys	ha
Studies/ Operational Trials:	
· Hazard and risk	Studies completed/ initiated/maintained
· Impact analyses (G&Y)	Studies completed/ initiated/maintained
· Treatments	Studies completed/ initiated/maintained
Training Courses	Courses (# trained)

* - reported in this sub-program only if district has no protection of current inventory sub-program

VANCOUVER FOREST REGION
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

Activities	Units	Five-year Plan Goals					Annual Plan 2001/02		
		2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Surveys	ha	600	600	600	600	600	$25	$15,000	H
2 Defoliator spraying	ha	0	1000	0	0	0	0	0	
3 Aerial Survey - overview	ha	400000	400000	400000	400000	400000			
4 Aerial Surveys - detailed	ha	2000	2000	2000	2000	2000			
Totals hectares		600	1600	600	600	600			
5 Aerial Survey - overview	hrs flying time	35	35	35	35	35	1,000	35,000	C
6 Aerial Surveys - detailed	hrs flying time	5	5	5	5	5	1,000	5,000	H
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		5	4	4	4	4	7,000	35,000	H
Totals		403245	405244	403244	403244	403244	$9,025	$90,000	

Priority is critical, high, moderate, low

It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.

However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.

5 Request for aerial overview survey funding includes **all** districts.

11 Funding for treatments icluding pruning Pw, bridge tree and fill planting for root disease, noxious weed control.

Forest Health Information Sub-program:

Activities	Units	Five-year Plan Goals					Annual Plan 2001/02		
		2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($000)	Priority C, H, M, L
1 Ground Survey	ha	1000	1000	1000	1000	1000	$12	$12,000	H
Totals hectares		1000	1000	1000	1000	1000			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
Studies/ Operational Trials:									
3 · Hazard and risk	number	2	2	2	1	1		25,000	M
4 · Impact analyses (G&Y)	number	1	1	1	1	1		35,000	H
5 · Treatments	number	3	4	3	2	2		40,000	H
6 Training Courses	number	1	1	1	1	1		2,000	M
7 Other		5	5	5	5	5		103,000	H
Totals		2012	2013	2012	2010	2010	$12	$217,000	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

7 Includes funding for extension, gypsy moth trap placement/collection, and activities outside #3, 4, & 5.

FRASER TSA
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

Activities	Units	Five-year Plan Goals 2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($000)	Priority C, H, M, L
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		0	0	0	0	0			
5 Aerial Survey - overview	hrs flying time	4	4	4	4	4	750	3,000	H
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		0	0	0	0	0	0	0	
Totals		4	4	4	4	4	$750	$3,000	

Priority is critical, high, moderate, low
It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.
However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.

Forest Health Information Sub-program:

Activities	Units	Five-year Plan Goals 2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($000)	Priority C, H, M, L
1 Ground Survey	ha	0	0	0	0	0	$0	$0	
Totals hectares		0	0	0	0	0			
2 Aerial Survey - overview*	hrs flying time	4	4	4	4	4	750	3,000	
Studies/ Operational Trials:									
3 · Hazard and risk	number	0	0	0	0	0	0	0	
4 · Impact analyses (G&Y)	number	0	0	0	0	0	0	0	
5 · Treatments	number	0	0	0	0	0	0	0	
6 Training Courses	number	0	0	0	0	0	0	0	
7 Other		0	0	0	0	0	0	0	
Totals		4	4	4	4	4	$750	$3,000	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

KINGCOME TSA

PART 3:

CURRENT REFORESTATION

3.1 Regional Current Reforestation Issues and Priorities

3.2 Forest Health General (for each management unit)

The TSA and TFL holders have nothing submitted for this as fire and pests currently account for very little to no damage within the PMFD.

PART 4

FOREST HEALTH MAINTENANCE

4.1 Regional Forest Health Maintenance Issues and Priorities

4.2 Management Unit Issues and Priorities

There is generally very little forest health problems on the TFLs. Over the past 2 years the PMFD has been monitoring the black headed budworm populations on the Northern tip of Vancouver Island, with the majority of it's population within the boundaries of TFL 6. In 1999 the population and their effects had dramatically declined, with the overall effect being slowed growth but no mortality to conifers. The districts top priority is monitoring the beetle populations North of TFL 45 which is a transition to interior lodgepole pine.

4.2.1 Protection of Current Inventory Sub-program

No funding is requested for this program as there is currently no forest health issues that warrant treatment.

4.2.2 Forest Health Information Sub-program

Summary of Issues and Priorities

Our forest health aerial surveys are quite extensive. This is a high priority for the TSA, not because of the current problems, but the fragile state of the current AAC and subsequent reductions dictate that long term supply of wood cannot afford to have heavy attacks from pests and diseases. Especially forest health issues that lead to mortality. Consequently, to the North of TFL 45 is a large concern given the current beetle outbreaks in the province and the isolated trees found from previous years surveys. Other less concerns are the black headed budworm which seems to be declining and cedar dieback located on the Mainland islands.

Completion of Table 1 as per guidelines

Please see attached table

Performance Measures as per guidelines

Please see attached performance measures table.

Table 3.1.1: Port McNeill Forest Districts TSA (without A19240)
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

		Five-year Plan Goals					Annual Plan 2001/02		
Activities	Units	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($000)	Priority C, H, M, L
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		0	0	0	0	0			
5 Aerial Survey - overview	hrs flying time	0	0	0	0	0	0	0	
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		0	0	0	0	0	0	0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low
It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan
However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation

Forest Health Information Sub-program:

		Five-year Plan Goals					Annual Plan 2001/02		
Activities	Units	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($000)	Priority C, H, M, L
1 Ground Survey	ha	0	0	0	0	0	$0	$0	
Totals hectares		0	0	0	0	0			
2 Aerial Survey - overview*	25	300000	300000	300000	300000	300000	0.10	30,000	H
Studies/ Operational Trials:									
3 Hazard and risk	number	0	0	0	0	0	0.00	0	
4 Impact analyses (G&Y)	number	0	0	0	0	0	0.00	0	
5 Treatments	number	0	0	0	0	0	0.00	0	
6 Training Courses	number	0	0	0	0	0	0.00	0	
7 Other		0	0	0	0	0	0.00	0	
Totals		300000	300000	300000	300000	300000	0.10	$30,000	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

Forest Health Maintenance Performance Measures for PMFD TSA
updated July 26, 2000
Protection of Current Inventory Sub-program:

Activity	**Unit**
Aerial Surveys - Overview	est. % of forested area surveyed/hrs flown/ ha
Aerial Surveys - Detailed	est. % of susceptible area surveyed/ hrs flown/ ha
Ground Surveys	est. % of aerially detected infestations gd. surveyed/ ha
Treatments	est. % of currently detected infestations addressed by:
Expedited Harvesting	% / Cubic metres
Deferred and baited	% / Cubic metres / trees baited
Single Tree treatments:	% / Cubic metres
Single Tree Removal	*Cubic metres*
Fall and Burn Treatment	*Trees*
MSMA Treatment	*Trees*
Abandoned for salvage	% / Cubic metres
Unsalvagable	% / Cubic metres
Defoliator Treatment	Hectares treated

est. = roughly estimated percentage to the nearest 20%

Forest Health Information Sub-program

Activity	**Unit**
Aerial Surveys - overview*	10% of forested area in district mapped, 30% surveyed / 25 hours required to accurately map out areas / some 300,000 hectares are surveyed
Ground Surveys	ha
Studies/ Operational Trials:	
· Hazard and risk	Studies completed/ initiated/maintained
· Impact analyses (G&Y)	Studies completed/ initiated/maintained
· Treatments	Studies completed/ initiated/maintained
Training Courses	Courses (# trained)

* - reported in this sub-program only if district has no protection of current inventory sub-program

An overview map was completed in the past, our district re-evaluates the status of it yearly

STRATHCONA TSA
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

Activities	Units	Five-year Plan Goals 2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		0	0	0	0	0			
5 Aerial Survey - overview	hrs flying time	0	0	0	0	0	0	0	
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		0	0	0	0	0	0	0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low
It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.
However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.

Forest Health Information Sub-program:

Activities	Units	Five-year Plan Goals 2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Survey	ha	0	0	0	0	0	$0	$0	
Totals hectares		0	0	0	0	0			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
Studies/ Operational Trials:									
3 · Hazard and risk	number	0	0	0	0	0		0	
4 · Impact analyses (G&Y)	number	0	0	0	0	0		0	
5 · Treatments	number	0	0	0	0	0		0	
6 Training Courses	number	0	0	0	0	0		0	
7 Other		0	0	0	0	0		0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

MID-COAST TSA
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

Activities	Units	Five-year Plan Goals					Annual Plan 2001/02		
		2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		0	0	0	0	0			
5 Aerial Survey - overview	hrs flying time	0	0	0	0	0	0	0	
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other*		1	0	0	0	0	3,000	3,000	M
Totals		1	0	0	0	0	$3,000	$3,000	

Priority is critical, high, moderate, low
It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.
However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.
11 Noxious weed control.

Forest Health Information Sub-program:

Activities	Units	Five-year Plan Goals					Annual Plan 2001/02		
		2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Survey	ha	0	0	0	0	0	$0	$0	
Totals hectares		0	0	0	0	0			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
Studies/ Operational Trials:									
3 · Hazard and risk	number	0	0	0	0	0		0	
4 · Impact analyses (G&Y)	number	0	0	0	0	0		0	
5 · Treatments	number	0	0	0	0	0		0	
6 Training Courses	number	0	0	0	0	0		0	
7 Other		0	0	0	0	0		0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

KINGCOME TSA (without A19240)
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

Activities	Units	Five-year Plan Goals					Annual Plan 2001/02		
		2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		0	0	0	0	0			
5 Aerial Survey - overview	hrs flying time	0	0	0	0	0	0	0	
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		0	0	0	0	0	0	0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low

It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.

However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.

Forest Health Information Sub-program:

Activities	Units	Five-year Plan Goals					Annual Plan 2001/02		
		2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Survey	ha	0	0	0	0	0	$0	$0	
Totals hectares		0	0	0	0	0			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0.00	0	
Studies/ Operational Trials:									
3 · Hazard and risk	number	0	0	0	0	0	0.00	0	
4 · Impact analyses (G&Y)	number	0	0	0	0	0	0.00	0	
5 · Treatments	number	0	0	0	0	0	0.00	0	
6 Training Courses	number	0	0	0	0	0	0.00	0	
7 Other		0	0	0	0	0	0.00	0	
Totals		0	0	0	0	0	0.00	$0	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

QUEEN CHARLOTTES TSA
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

Activities	Units	Five-year Plan Goals 2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		0	0	0	0	0			
5 Aerial Survey - overview	hrs flying time	0	0	0	0	0	0	0	
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		0	0	0	0	0	0	0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low
It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.
However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.

Forest Health Information Sub-program:

Activities	Units	Five-year Plan Goals 2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Survey	ha	0	0	0	0	0	$0	$0	
Totals hectares		0	0	0	0	0			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
Studies/ Operational Trials:									
3 · Hazard and risk	number	0	0	0	0	0		0	
4 · Impact analyses (G&Y)	number	0	0	0	0	0		0	
5 · Treatments	number	0	0	0	0	0		0	
6 Training Courses	number	0	0	0	0	0		0	
7 Other		0	0	0	0	0		0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

SUNSHINE COAST TSA
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

		Five-year Plan Goals					Annual Plan 2001/02		
Activities	**Units**	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Surveys	ha	600	600	600	600	600	$25	$15,000	H
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		600	600	600	600	600			
5 Aerial Survey - overview	hrs flying time	0	0	0	0	0	0	0	
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other	number	4	4	4	4	4	8,000	32,000	C
Totals		1204	1204	1204	1204	1204	$8,025	$47,000	

Priority is critical, high, moderate, low
It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.
However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.
11 Treatments-Pruning Pw/Bridge tree/fill plant

Forest Health Information Sub-program:

		Five-year Plan Goals					Annual Plan 2001/02		
Activities	**Units**	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Survey	ha	1000	1000	1000	1000	1000	$12	$12,000	H
Totals hectares		1000	1000	1000	1000	1000			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
Studies/ Operational Trials:									
3 · Hazard and risk	number	0	0	0	0	0		0	
4 · Impact analyses (G&Y)	number	0	0	0	0	0		0	
5 · Treatments	number	0	0	0	0	0		0	
6 Training Courses	number	0	0	0	0	0		0	
7 Other		3	3	3	3	3		95,000	C
Totals		2003	2003	2003	2003	2003	$12	$107,000	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program
7 Other-F.H. Trials/S.P.A./maintenance

Sunshine Coast TSA
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

		Five-year Plan Goals					Annual Plan 2001/02		
Activities	**Units**	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($000)	Priority C, H, M, L
1 Ground Surveys	ha	600	600	600	600	600	$25	$15,000	high
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		600	600	600	600	600			
5 Aerial Survey - overview	hrs flying time	50	50	50	50	50	100	5,000	critical
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		0	0	0	0	0	0	0	
Totals		1250	1250	1250	1250	1250	$125	$20,000	

Priority is critical, high, moderate, low

It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan

However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation

Forest Health Information Sub-program:

		Five-year Plan Goals					Annual Plan 2001/02		
Activities	**Units**	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($000)	Priority C, H, M, L
1 Ground Survey	ha	1000	1000	1000	1000	1000	$12	$12,000	C, H, M, L
Totals hectares		1000	1000	1000	1000	1000			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
Studies/ Operational Trials									
3 Hazard and risk	number	0	0	0	0	0	0	0	
4 Impact analyses (G&Y)	number	0	0	0	0	0	0	0	
5 Treatments	number	4	4	4	4	4	8,000	32,000	C
6 Training Courses	number	0	0	0	0	0	0	0	
7 Other	Trials	190	190	190	190	190	500	95,000	C
Totals		2194	2194	2194	2194	2194	$8,512	$139,000	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program
5 Treatments-Pruning Pw/Bridge tree/fill plant
7 Other-F H Trials/S P A /maintenance

Sunshine Coast TSA Forest Health Maintenance Performance Measures
updated July 26, 2000
Protection of Current Inventory Sub-program:

Activity	**Unit**
Aerial Surveys - Overview	est. 70 % of forested area surveyed/hrs flown/ ha
Aerial Surveys - Detailed	est.80 % of susceptible area surveyed/ hrs flown/ ha
Ground Surveys	est. 90% of aerially detected infestations gd. surveyed/ ha
Treatments	est.70 % of currently detected infestations addressed by:
Expedited Harvesting	60% / Cubic metres
Deferred and baited	40% / Cubic metres / trees baited
Single Tree treatments:	% / Cubic metres
Single Tree Removal	*Cubic metres*
Fall and Burn Treatment	*Trees*
MSMA Treatment	*Trees*
Abandoned for salvage	% / Cubic metres
Unsalvagable	% / Cubic metres
Defoliator Treatment	Hectares treated

est. = roughly estimated percentage to the nearest 20%

Forest Health Information Sub-program

Activity	**Unit**
Aerial Surveys - overview*	% of district mapped (ha)
Ground Surveys	ha
Studies/ Operational Trials:	
· Hazard and risk	Studies completed/ initiated/maintained
· Impact analyses (G&Y)	Studies completed/ initiated/maintained
· Treatments	Studies completed/ initiated/maintained
Training Courses	Courses (# trained)

* - reported in this sub-program only if district has no protection of current inventory sub-program

ARROWSMITH TSA
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

Activities	Units	Five-year Plan Goals 2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		0	0	0	0	0			
5 Aerial Survey - overview	hrs flying time	0	0	0	0	0	0	0	
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		0	0	0	0	0	0	0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low
It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.
However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.

Forest Health Information Sub-program:

Activities	Units	Five-year Plan Goals 2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Survey	ha	0	0	0	0	0	$0	$0	
Totals hectares		0	0	0	0	0			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
Studies/ Operational Trials:									
3 · Hazard and risk	number	0	0	0	0	0		0	
4 · Impact analyses (G&Y)	number	0	0	0	0	0		0	
5 · Treatments	number	0	0	0	0	0		0	
6 Training Courses	number	0	0	0	0	0		0	
7 Other		1	1	1	1	1		3	H
Totals		1	1	1	1	1	$0	$3	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

SOO TSA
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

Activities	Units	Five-year Plan Goals					Annual Plan 2001/02		
		2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	
2 Defoliator spraying	ha	0	0	0	0	0	0	0	
3 Aerial Survey - overview	ha	0	0	0	0	0			
4 Aerial Surveys - detailed	ha	0	0	0	0	0			
Totals hectares		0	0	0	0	0			
5 Aerial Survey - overview	hrs flying time	0	0	0	0	0	0	0	
6 Aerial Surveys - detailed	hrs flying time	0	0	0	0	0	0	0	
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		0	0	0	0	0	0	0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low
It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.
However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.

Forest Health Information Sub-program:

Activities	Units	Five-year Plan Goals					Annual Plan 2001/02		
		2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Survey	ha	0	0	0	0	0	$0	$0	
Totals hectares		0	0	0	0	0			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
Studies/ Operational Trials:									
3 · Hazard and risk	number	0	0	0	0	0		0	
4 · Impact analyses (G&Y)	number	0	0	0	0	0		0	
5 · Treatments	number	0	0	0	0	0		0	
6 Training Courses	number	0	0	0	0	0		0	
7 Other		0	0	0	0	0		0	
Totals		0	0	0	0	0	$0	$0	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

RVA REGIONAL OFFICE
Forest Health Maintenance Activities
For the 2001/02 Fiscal Year

Protection of Current Inventory Sub-Program:

Activities	Units	Five-year Plan Goals 2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Surveys	ha	0	0	0	0	0	$0	$0	
2 Defoliator spraying	ha	0	1000	0	0	0	0	0	
3 Aerial Survey - overview	ha	400000	400000	400000	400000	400000			
4 Aerial Surveys - detailed	ha	2000	2000	2000	2000	2000			
Totals hectares		0	1000	0	0	0			
5 Aerial Survey - overview	hrs flying time	35	35	35	35	35	1,000	35,000	H
6 Aerial Surveys - detailed	hrs flying time	5	5	5	5	5	1,000	5,000	H
7 Fall and burn treatment	trees	0	0	0	0	0	0	0	
8 MSMA treatment	trees	0	0	0	0	0	0	0	
9 Pheromone baiting	trees	0	0	0	0	0	0	0	
10 Studies	number	0	0	0	0	0	0	0	
11 Other		0	0	0	0	0	0	0	
Totals		402040	404040	402040	402040	402040	$2,000	$40,000	

Priority is critical, high, moderate, low

It is suggested as a default to use the numbers submitted in the 2000/01 Bark Beetle Allocation / Budgeting process for all 5 yrs of this plan.

However, if it is expected that the activities will increase or decrease due to declining or expanding pest populations, the plan should reflect this expectation.

5 Request for aerial overview survey funding includes **all** districts.

Forest Health Information Sub-program:

Activities	Units	Five-year Plan Goals 2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	Annual Plan 2001/02 Unit Cost ($)	Funding ($)	Priority C, H, M, L
1 Ground Survey	ha	0	0	0	0	0	$0	$0	
Totals hectares		0	0	0	0	0			
2 Aerial Survey - overview*	hrs flying time	0	0	0	0	0	0	0	
Studies/ Operational Trials:									
3 · Hazard and risk	number	2	2	2	1	1		25,000	M
4 · Impact analyses (G&Y)	number	1	1	1	1	1		35,000	H
5 · Treatments	number	3	4	3	2	2		40,000	H
6 Training Courses	number	1	1	1	1	1		2,000	M
7 Other		1	1	1	1	1		5,000	M
Totals		8	9	8	6	6	$0	$107,000	

Priority is critical, high, moderate, low

* - reported in this sub-program only if district has no protection of current inventory sub-program

Enhancing Environmental Values
Part 5 of the
Resource Management Plan
for the Vancouver Forest Region

ENHANCING ENVIRONMENTAL VALUES

A COMPONENT OF THE VANCOUVER FOREST REGION

2001 – 2002

RESOURCE MANAGEMENT PLAN

PART 5
ENHANCING ENVIRONMENTAL VALUES

5.1 Introduction

The purpose of the Enhancing Environmental Values resource management plan is to ensure that "future investment by Forest Renewal BC will be targeted at restoring and protecting fish habitat and domestic water supplies in priority watersheds which have been damaged or are threatened by pre-forest practices code forest development"[1].

5.2 Resource Management Plan Development

The 2001-02 enhancing environmental values resource management plan was developed jointly by the Ministry of Forests, the Ministry of Environment, Lands and Parks, the Department of Fisheries and Oceans and Forest Renewal BC. The process involved collecting specific information from all of the multi-year agreement holders who, in turn, consulted with their implementing partners. A list of personnel involved in the process is included as Appendix A.

Identification of Watershed Units

As part of the 2000-01 enhancing environmental values resource management plan, the Ministry of Environment, Lands and Parks broke down the Pacific region into 543 watershed units (see map attached as Appendix B). The watershed units vary in size from approximately 10 to 500 km^2. The 2001-02 resource management plan used the same watershed units that were delineated for the 2000-01 resource management plan.

Identification of Key Watersheds

A key watershed is defined as a watershed unit containing high values of either fish or water resources. To identify the key watersheds, all the watershed units were reviewed by the Ministry of Environment, Lands and Parks and the Department of Fisheries and Oceans to quantify the fish and water resources within each drainage. Each agency developed its own rating scale to reflect their individual mandates. The following criteria were used.

The Ministry of Environment, Lands and Parks assessed each watershed according to the following criteria.

MELP Fish Criteria	Maximum Score
Level of Use	5

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[1] Resource Management Plan Guidelines for the Enhancing Environmental Values Strategic Objective, May 5, 2000.

Fish Management Values	15
Unique Fish Species	5
Production Decline	8
Threatened Aquatic Population	5
Historic Enhancement	1
Scientific Research	1
Total	40

MELP Water Criteria	Maximum Score
Number of Points of Diversion	12
Community Watershed	20
Total	32

The Department of Fisheries and Oceans assessed each watershed according to the following criteria.

DFO Fish Criteria	Maximum Score
Commercial and Recreational Values	10
Native Fisheries Values	10
Conservation Status	15
Total	35

A watershed was considered to have high value for fish if the Ministry of Environment, Lands and Parks score was greater than 34 or the Department of Fisheries and Oceans score was greater than 17. If the score for water was greater than 19 the watershed was consider to have a high value as a domestic water supply.

Identification of Priority Key Watersheds

A priority key watershed is a key watershed that contains significant pre-code, forestry related impacts and has a high probability that the fish or water resources can be successfully restored. To obtain this information, the Ministry of Forests solicited data from the multi-year agreement holders regarding the presence of pre-code forestry related impacts to the fish and water resources, the ownership of the land (e.g. private holdings or Crown land) and whether or not traditional restoration efforts were likely to be successful. They were also asked to report on the current status of their Watershed Restoration Program projects by identifying transitional watersheds (i.e. watersheds which are not designated as key watersheds but where up-slope works were underway during the 1999-00 fiscal year) and by filling in the following matrix using the abbreviations listed below.

Stage	Up-slope	Riparian	In-stream
Overview Assessment			
Prescriptions			
Works			
Effectiveness Evaluation			

P for planned - if this stage of the project is planned to commence during the 2001-02 fiscal year.
O for ongoing - if this stage of the project is being undertaken during the 2000-01 fiscal year.
C for completed - if this stage of the project is finished.
If none of these conditions apply then leave the cell blank (e.g. no up slope activities are to be undertaken for this sub-basin).

Once the data was received from the multi-year agreement holder it was consolidated into a single spreadsheet and reviewed by the appropriate Ministry of Forests district office. The verified data was then used to assign watershed categories according to the following rules.

Watershed Category	Definition
1	Priority key watersheds
2	Watersheds which contain a significant area of private forest land
3	Watersheds which do not contain high value fish or water resources
4	Watersheds in which restoration efforts are unlikely to be successful
5	Watersheds where there is insufficient knowledge in order to make a determination

Identification of Target Watersheds

Forest Renewal BC has set the objective of completing the restoration of 20% of the priority key watersheds by March 31, 2004[2]. A target watershed is a priority key watershed that has been selected for completion by this date.

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[2] Forest Renewal BC Business Plan 2000/2001

A priority key watershed was selected to be a target watershed if it had works underway or completed in at least two of the three components (i.e. up-slope, riparian or in-stream). Applying this criteria identified the following 48 projects as target watersheds.

District	Watershed Number	Watershed Name
DCK	71	Slesse Creek
DCK	74	Silverhope Creek
DCK	89	Nahatlatch River
DCK	92	Chehalis River
DCK	96	Norrish Creek
DCK	123	Wahleach Creek
DCK	124	Hicks Creek
DCR	2	Eve River
DCR	10	Muchalat
DCR	20	Bigtree Creek
DCR	23	White River
DCR	61	Zeballos River
DMC	444	Machmell River
DMC	445	Sheemahant River
DMC	447	Talchako River
DMC	459	Kwatna River
DMC	460	Chuckwalla River
DMC	461	Kilbella River
DMC	489	Kimsquit River
DMC	492	Bella Colla River
DPM	3	Vernon Lake
DPM	341	Woss Lake
DPM	342	Davie River
DPM	344	Maquilla River
DPM	347	Kilpala
DPM	348	Middle Nimpkish
DPM	349	Upper Nimpkish
DPM	361	Keogh River
DPM	537	Pink Creek
DQC	141	Louise
DQC	142	Naden
DQC	149	Deena
DQC	150	Copper
DQC	153	Sewell
DSC	421	Tzoonie River
DSC	433	Chapman Creek
DSI	171	Gordon River
DSI	172	San Juan River
DSI	210	Caycuse River

District	Watershed Number	Watershed Name
DSI	216	Sarita
DSI	225	Sproat Lake
DSI	231	Mooyah River
DSI	239	Cypre River
DSI	249	Kennedy Flats
DSI	252	Henderson
DSQ	110	Indian River
DSQ	254	Ashlu Creek
DSQ	265	Mamquam River

It should be noted, that under the current policies, all priority key watersheds are eligible for Forest Renewal BC funding. It is likely, however, that Forest Renewal BC will impose some business rules that require a multi-year agreement holder to allocate a designated percentage of their funding to be used exclusively on target watersheds.

5.3 Watershed Unit Rankings

The results of the data collection exercise are listed in Appendix C (Table 3a) and Appendix D (Table 3b). Digital versions of these tables are available on the internet at http://www.for.gov.bc.ca./cpp/0001rmplan/. Analysis of this information resulted in the following distribution of watershed units.

Category	**Number of Watersheds**	**% of Total watersheds**
Total number of watersheds	543	100
Key watersheds	223	41
Priority key watersheds	130	24
Target watersheds	48	9
Transitional watersheds	49	9
1	129	24
2	57	10
3	186	34
4	9	2
5	162	30

It should be noted that, for transitional watersheds, only up-slope prescriptions and works are eligible activities. Furthermore, within the Pacific Region, all activities in transitional watersheds
must be completed by March 31, 2002.

Resource Management Plan Committee

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Paul Marquis	Ministry of Forests	250 751-7051	paul.marquis@gems6.gov.bc.ca
Mel Sheng	Department of Fisheries and Oceans	250 756-7016	Shengm@dfo-mpo.gc.ca

Multi-year Agreement Holder Contacts

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Ian Dodd	Husby	250 598-8042	iand@island.net
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Dave Harrison	Canfor	604 661-5381	daveharrison@mail.canfor.ca
Ken Hall	Western	250 286-4120	khall@western.com
Ted Holtby	Fraser TSA	604 823-6525	catrmole@direct.ca
Mike Hunter	TFL	604 740-8094	mhunter@eba.ca
Ian Robertson	Interfor	250 286-4547	ian_robertson@interfor.com
Wayne Sakamoto	Soo TSA	604 894-6004	sakamoto@direct.ca

MAP NOT AVAILABLE

543 District	Watershed Number	Watershed Name	17 Key DFO Fish Watershed	34 Key MELP Fish Watershed	19 Key Domestic Watershed	Key Watershed	Are there significant pre-code forestry impacts to fish habitat or water quality?	Is it likely that restoration efforts will be successful?	Priority Key Watershed	Does the watershed contain a significant proportion of private land?	Category	Recipient	MYA Number	Partners	Transitional Watershed	Target Watershed
DCR	1	Adam River	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01507	none	YES	NO
DCR	2	Eve River	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01507	none	NO	YES
DPM	3	Vernon Lake	NO	YES	NO	YES	YES	YES	YES	NO	1	Canfor / TFL	PAM 98603	Namgis FN IWA	NO	YES
DCR	4	Houston River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	6	Burman River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	7	Jacklah River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	8	Machley Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	9	Buttle	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCR	10	Muchalat	YES	YES	NO	YES	YES	YES	YES	NO	1	Canfor / Western	PAM 98603	IWA	NO	YES
DCR	11	Upana	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98504	none	NO	NO
DCR	12	Ucona	NO	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98504	none	NO	NO
DCR	13	Gold	YES	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98504	none	NO	NO
DCR	14	Silverado	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	15	Elk River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DCR	16	Upper Campbell River	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00501	none	NO	NO
DCR	17	Heber River	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL / Western	PAM 98505 /	none	NO	NO
DCR	18	Memekay River	NO	YES	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01507	none	NO	NO
DCR	19	Grilse Creek	NO	YES	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01507	none	NO	NO
DCR	20	Bigtree Creek	NO	YES	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01507	none	NO	YES
DCR	21	Upper Salmon River	NO	YES	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01507	none	NO	NO
DCR	22	Lower Salmon River	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01507	none	NO	NO
DCR	23	White River	NO	NO	YES	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01507	none	NO	YES
DCR	24	Quadra Island	YES	NO	NO	YES	YES	YES	YES	NO	1	TFL	PAM 98505	none	NO	NO
DCR	25	Sonora Island	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL	PAM 98505	none	YES	NO
DCR	26	East Thurlow Island	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL	PAM 98505	none	NO	NO
DCR	27	West Thurlow Island	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL	PAM 98505	none	NO	NO
DCR	28	Hardwicke Island	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL	PAM 98505	none	YES	NO
DCR	29	Mohun Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00501	none	NO	NO
DCR	30	Pye Creek	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor	PAM 98508	IWA	NO	NO
DCR	31	Menzies Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00501	none	NO	NO
DCR	32	Amor de Cosmos Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98508	IWA	NO	NO
DCR	33	Elk Bay Face Unit	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor	PAM 98508	IWA	NO	NO
DCR	34	Sayward Face	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor /	PAM 98508	IWA	NO	NO
DCR	35	Kelsey Bay Face Unit	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01507	none	YES	NO
DCR	36	Lower Campbell River	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00501	none	NO	NO
DCR	37	Quinsam River	YES	YES	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCR	38	Simms Face	NO	YES	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCR	39	Oyster River	YES	YES	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCR	40	Black Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCR	41	Tsolum River	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCR	42	Little River Face	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCR	43	Puntledge River	YES	YES	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCR	44	Trent River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCR	45	Bligh Island	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00501	none	NO	NO
DCR	46	Gore Island	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00501	none	NO	NO
DCR	47	Kleeptee Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor / Western	PAM 98508 /	IWA	NO	NO
DCR	48	McCurdy Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98504	none	NO	NO
DCR	49	Tlupana River	YES	NO	NO	YES	YES	YES	YES	NO	1	Western		none	NO	NO
DCR	50	Conuma River	YES	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98504	none	NO	NO
DCR	51	Sucwoa River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	52	Nootka Island	NO	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98504	none	NO	NO
DCR	53	Tahsis River	YES	NO	YES	YES	YES	YES	YES	NO	1	Western		none	NO	NO
DCR	54	Leiner/Perry River	YES	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98504	none	NO	NO
DCR	55	Deserted Lake	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	56	Hisnit Inlet	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor / Western	PAM 98508 /	IWA	NO	NO
DCR	57	Tsowwin River	NO	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98504	none	NO	NO
DCR	58	Tahsis Inlet	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	59	Canton	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	60	Little Zeballos River	NO	NO	NO	NO	YES	YES	NO	NO	3	MoF	PAA 00501	FN	YES	NO
DCR	61	Zeballos River	YES	NO	YES	YES	YES	YES	YES	NO	1	Western	PAM 98504	none	NO	YES
DCR	62	Lutes Creek	YES	YES	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00501	FN	NO	NO
DCR	63	Espinosa	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00501	none	NO	NO
DCK	64	Airplane/Foley	YES	NO	NO	YES	YES	YES	YES	NO	1	Fraser Cartel	PAM 99115	none	NO	NO
DCK	65	Borden Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Fraser Cartel	PAM 99115	none	YES	NO
DCK	66	Centre Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Fraser Cartel	PAM 99115	none	NO	NO
DCK	67	Chipmunk Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	MoF		none	NO	NO
DCK	68	Nesakwatch Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	MoF		none	NO	NO
DCK	69	Paleface Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	MoF		none	NO	NO
DCK	70	Post Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	71	Slesse Creek	YES	NO	NO	YES	YES	YES	YES	NO	1	MoF		none	NO	YES
DCK	72	Tamihi Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Fraser Cartel	PAM 99115	none	YES	NO
DCK	73	Yola/Cantelon Creeks	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO

District	Watershed Number	Watershed Name	Key DFO Fish Watershed	Key MELP Fish Watershed	Key Domestic Watershed	Key Watershed	Are there significant pre-code forestry impacts to fish habitat or water quality?	Is it likely that restoration efforts will be successful?	Priority Key Watershed	Does the watershed contain a significant proportion of private land?	Category	Recipient	MYA Number	Partners	Transitional Watershed	Target Watershed
DCK	74	Silverhope Creek	NO	YES	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98108	IWA	NO	YES
DCK	75	Kiesilkwa River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	76	Sumallo/Twenty Mile Creeks	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	77	Skagit River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	78	Sowaqua Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Tamihi		none	NO	NO
DCK	79	Dewdney Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	80	Deneau Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Fraser Cartel	PAM 99115	none	YES	NO
DCK	81	Ladner Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Fraser Cartel	PAM 99115	none	YES	NO
DCK	82	Coquihalla River	NO	NO	NO	NO	YES	YES	NO	NO	3			none	NO	NO
DCK	83	Anderson River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	84	Ainslie River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	85	Siwash Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	86	Spuzzum Creek	NO	NO	YES	YES	YES	YES	YES	NO	1	Fraser Cartel	PAM 99115	Spuzzum	NO	NO
DCK	87	Tsileuh Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	88	Scuzzy Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Fraser Cartel	PAM 99115	Boston Bar	NO	NO
DCK	89	Nahatlatch River	YES	NO	NO	YES	YES	YES	YES	NO	1	Fraser Cartel	PAM 99115	Boothroyd	NO	YES
DCK	90	Big Silver Creek	YES	YES	NO	YES	YES	YES	YES	NO	1			none	NO	NO
DCK	91	Hornet/Clear Creeks	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98106	none	YES	NO
DCK	92	Chehalis River	YES	NO	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98103	none	NO	YES
DCK	93	Cogburn/Talc Creeks	YES	NO	NO	YES	YES	YES	YES	NO	1	Fraser Cartel	PAM 99115	none	NO	NO
DCK	94	Harrison River	YES	NO	YES	YES	NO	NOT APPLICABLE	NO	NO	3	MoF		none	NO	NO
DCK	95	Weaver Creek	YES	NO	NO	YES	YES	YES	YES	NO	1			none	NO	NO
DCK	96	Norrish Creek	YES	NO	YES	YES	YES	YES	YES	NO	1	Canfor	PAM 98103	none	NO	YES
DCK	97	Cascade Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Canfor	PAM 98103	none	NO	NO
DCK	98	Winslow/George Good Creeks	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	99	Stave River	YES	NO	NO	YES	YES	NO	NO	NO	4			none	NO	NO
DCK	100	Corbold Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	101	Fish Hatchery Creek	NO	NO	NO	NO	YES	YES	NO	NO	3			none	NO	NO
DCK	102	Boise Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	103	Gurney Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	104	Alouette River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCK	105	Pitt Lake	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	J S Jones		none	NO	NO
DCK	106	Upper Pitt River	YES	NO	NO	YES	YES	YES	YES	NO	1			none	NO	NO
DCK	107	Or Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	MoF	PAA 00101	none	NO	NO
DCK	108	Coquitlam River	YES	NO	YES	YES	YES	YES	YES	NO	1			none	NO	NO
DCK	109	Chilliwack River	YES	NO	NO	YES	YES	YES	YES	NO	1	MELP		none	NO	NO
DSQ	110	Indian River	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98206	none	NO	YES
DCK	111	Seymour River	YES	NO	YES	YES	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DCK	112	Lynn Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DCK	113	Capilano River	YES	NO	YES	YES	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DCK	114	Serpentine River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	YES	2			none	NO	NO
DCK	115	Nikomekl River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	YES	2			none	NO	NO
DCK	116	Salmon River	YES	NO	NO	YES	NO	NOT APPLICABLE	NO	YES	2			none	NO	NO
DCK	117	Brunette River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	YES	2			none	NO	NO
DCK	118	Hatzic Lake	YES	NO	YES	YES	NO	NOT APPLICABLE	NO	YES	2			none	NO	NO
DCK	119	Kookipi Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	120	Log Creek	NO	NO	NO	NO	YES	YES	NO	NO	3			none	NO	NO
DCK	121	Mehatl River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	122	Mowhokam Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	123	Wahleach Creek	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98108	IWA	NO	YES
DCK	124	Hicks Creek	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98108	IWA	NO	YES
DCK	125	Yorkson Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	YES	2			none	NO	NO
DCK	126	Frosst Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	127	Boston Bar Creek	YES	YES	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	128	Liumchen Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00101	none	NO	NO
DCK	129	Ruby Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	130	Emory Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCK	131	Yale Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00101	none	NO	NO
DCK	132	Campbell Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCK	133	Fishtrap Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCK	134	McLennan Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCK	135	Nathan Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCK	136	Hannah Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DCK	137	Sumas River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DQC	138	Masset	NO	YES	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01807	Haida	NO	NO
DQC	139	Yakoun	YES	YES	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01807	Haida	NO	NO
DQC	140	Alliford	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01807	Haida	YES	NO
DQC	141	Louise	YES	YES	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01807	Haida	NO	YES
DQC	142	Naden	NO	YES	NO	YES	YES	YES	YES	NO	1	Husby	PAM 99813	Old Masset	NO	YES
DQC	143	Cave	NO	YES	NO	YES	YES	YES	YES	NO	1	Husby	PAM 99813	Old Masset	NO	NO
DQC	144	Tartu	NO	NO	NO	NO	YES	YES	NO	NO	3	Husby	PAM 99813	Old Masset	YES	NO
DQC	145	Rennell	NO	NO	NO	NO	YES	YES	NO	NO	3	MoF	PAA 00801	none	YES	NO
DQC	146	Honna	NO	NO	YES	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01807	Haida	NO	NO

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DQC	147	Tarundl	NO	NO	YES	YES	YES	YES	YES	NO	1	MoF	PAA 00801	none	NO	NO
DQC	148	Chinukundl	NO	NO	NO	NO	YES	YES	NO	NO	3	MoF	PAA 00801	none	YES	NO
DQC	149	Deena	YES	YES	NO	YES	YES	YES	YES	NO	1	TFL	PAA 01005	Hida	NO	YES
DQC	150	Copper	YES	YES	NO	YES	YES	YES	YES	NO	1	TFL	PAA 01005	Hida	NO	YES
DQC	151	Pallant	NO	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98804	none	NO	NO
DQC	152	Tasu	NO	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98804	none	NO	NO
DQC	153	Jewell	NO	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98804	none	NO	YES
DQC	154	Tatunkwan	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98804	none	YES	NO
DQC	155	Tlell	NO	NO	NO	NO	YES	YES	NO	NO	1	Weyerhaeuser	PAM 01807	Hida	NO	NO
DQC	156	Skidegate	NO	NO	YES	YES	NO	NOT APPLICABLE	NO	NO	3	MoF	PAA 00801	none	NO	NO
DQC	157	Long	NO	YES	NO	YES	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	158	[illegible]	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	159	Naikoon	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	160	Hancock	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	161	Jalun	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	162	Coates	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	163	Cumshewa	NO	YES	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01807	Hida	NO	NO
DQC	164	Kuper	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Weyerhaeuser	PAM 01807	Hida	NO	NO
DQC	165	Moresby	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	166	Langara	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	167	Christie	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	168	Mayer	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	169	Kitgoro	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DQC	170	Mercer	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DSI	171	Gordon River	YES	YES	NO	YES	YES	YES	YES	NO	1	TFL	PAM 98405	acheedaht FN / IW	NO	YES
DSI	172	San Juan River	YES	YES	NO	YES	YES	YES	YES	NO	1	TFL	PAM 98405	acheedaht FN / IW	NO	YES
DSI	173	Sombrio Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98404	none	NO	NO
DSI	174	Loss Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98404	none	NO	NO
DSI	175	Bent Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DSI	176	Jordan River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western	PAM 98404	none	NO	NO
DSI	177	Goudie Creek	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DSI	178	Kirby	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DSI	179	Muir Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2	Western		none	NO	NO
DSI	180	Tugwell	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2	Western		none	NO	NO
DSI	181	Sooke River	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	Western		none	NO	NO
DSI	182	Kemp Creek	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	183	West Mechosin	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	184	East Mechosin	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	185	Goldstream	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2		PAA 00401	none	NO	NO
DSI	186	Victoria/Saanich	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	187	Johns Creek	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	188	Shawnigan Creek	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	189	Koksilah River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	190	Cowichan River	YES	YES	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00401	none	NO	NO
DSI	191	Cowichan Lake	YES	YES	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	192	Chemainus River	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	193	Sansum Narrows	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	194	Duncan	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	195	Stuart Channel	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	196	Ladysmith	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	197	Haslam Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2	TFL		none	NO	NO
DSI	198	Nanaimo River	YES	YES	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	199	Chase River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2	TFL		none	NO	NO
DSI	200	Brennen Lake	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	201	Lantzville	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	202	Bonell Creek	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	203	Englishman River	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	204	Nanoose Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	205	French Creek	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	206	Little Qualicum River	NO	YES	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO
DSI	207	Cameron River	NO	YES	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	208	Walbran Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL /	PAM 98405 /	IWA	NO	NO
DSI	209	Camper Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	210	Caycuse River	YES	NO	NO	YES	YES	YES	YES	NO	1	TFL /	PAM 98405 /	IWA / Ditidaht FN	NO	YES
DSI	211	Carmanah Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	212	Nitinat River	YES	NO	YES	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01407	Ditidaht FN	NO	NO
DSI	213	Nitinat Lake	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	Ditidaht FN	NO	NO
DSI	214	Tsusiat River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DSI	215	Klanawa/Darling	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	Ditidaht / Huu-ayaht	NO	NO
DSI	216	Sarita	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01407	Hu-Ay-Aht	NO	YES
DSI	217	Franklin/Corrigan	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2	Weyerhaeuser	PAM 01406	none	NO	NO
DSI	218	Stamp River	YES	YES	YES	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	219	Qualicum River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	YES	2	MoF	PAA 00401	none	NO	NO

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DSI	220	Nile Creek	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00401	none	NO	NO
DSI	221	Rosewall Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	MoF	PAA 00401	none	NO	NO
DSI	222	Tsable/Wilfred	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00401	none	NO	NO
DSI	223	Ash River	YES	YES	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	224	Great Central Lake	NO	NO	YES	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01407	Hupacasath FN	NO	NO
DSI	225	Sproat Lake	NO	YES	YES	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01407	Hupacasath FN	NO	YES
DSI	226	Bedwell River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	YES	2	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	227	Moyeha River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DSI	228	Megin River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	229	Mt. Bourke	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor	PAM 98407	CWFS	NO	NO
DSI	230	Sydney River	YES	NO	NO	YES	NO	NOT APPLICABLE	NO	NO	3	Interfor	PAM 98407	none	NO	NO
DSI	231	Mooyah River	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98407	CWFS	NO	YES
DSI	232	Escalante River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98407	CWFS	NO	NO
DSI	233	Hesquiate Penninsula	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DSI	234	Hesquiate Lake	YES	NO	NO	YES	YES	YES	YES	NO	1	MoF	PAA 00401	Interfor	NO	NO
DSI	235	Rondeault Point	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfpr	PAM 98407	CWFS	NO	NO
DSI	236	Hot Springs Cove	NO	NO	YES	YES	YES	YES	YES	NO	1	MoF	PAA 00401	Hesquiaht FN	NO	NO
DSI	237	Flores Island	NO	NO	YES	YES	NO	NOT APPLICABLE	NO	NO	3	Weyerhaeuser	PAM 01407	Ahousaht FN	NO	NO
DSI	238	Atleo (LU)	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98408	CWFS	NO	NO
DSI	239	Cypre River	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01407	Ahousaht FN	NO	YES
DSI	240	Cotter Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98407	none	YES	NO
DSI	241	Mattset	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00401	none	NO	NO
DSI	242	Bulson River	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	none	YES	NO
DSI	243	Meares Island	NO	NO	YES	YES	YES	NO	NO	NO	4	Interfor	PAM 98407	none	NO	NO
DSI	244	Rolling Stone	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	245	Tranquil Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	none	YES	NO
DSI	246	Tofino Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	none	YES	NO
DSI	247	Clayoquot River	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	248	Kennedy River	YES	YES	NO	YES	YES	YES	YES	NO	1	Interfor /	PAM 98408 /	CWFS	NO	NO
DSI	249	Kennedy Flats	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor /	PAM 98407 /	CWFS	NO	YES
DSI	250	Toquart	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01407	none	NO	NO
DSI	251	Effingham	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01407	Uchucklesaht FN	NO	NO
DSI	252	Henderson	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01407	Uchucklesaht FN	NO	YES
DSI	253	Nahmint	YES	YES	NO	YES	NO	NOT APPLICABLE	NO	NO	3	Weyerhaeuser	PAM 01407	Hupacasath FN	NO	NO
DSQ	254	Ashlu Creek	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98208	none	NO	YES
DSQ	255	Cheakamus River	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF		none	NO	NO
DSQ	256	Brandywine River	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98204	none	YES	NO
DSQ	257	Callaghan River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DSQ	258	Cheekeye River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF		none	NO	NO
DSQ	259	Culliton Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF / Western		none	NO	NO
DSQ	260	Pilchuk Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor / Terminal		none	NO	NO
DSQ	261	Elaho River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSQ	262	Clendenning Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSQ	263	Sims Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSQ	264	Mashiter Creek	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00201	none	NO	NO
DSQ	265	Mamquam River	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01207	none	NO	YES
DSQ	266	Squamish River	YES	YES	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98208	none	NO	NO
DSQ	267	Fire Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Squamish Mills	PAM 99001	none	YES	NO
DSQ	268	Sloquet Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Canfor		none	NO	NO
DSQ	269	Douglas Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSQ	270	Gowan Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98208	none	YES	NO
DSQ	271	Rogers Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSQ	272	Lizzie Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSQ	273	Twin One Creek	NO	NO	YES	YES	YES	YES	YES	NO	1	Interfor	PAM 98208	none	YES	NO
DSQ	274	Joffre Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	CRB		none	NO	NO
DSQ	275	Miller Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF		none	NO	NO
DSQ	276	Birkenhead River	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAA 00201	none	NO	NO
DSQ	277	Ryan River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Terminal	PAM 99001	none	NO	NO
DSQ	278	South Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Terminal		none	NO	NO
DSQ	279	Meager Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	CRB	PAM 99001	none	YES	NO
DSQ	280	North Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Squamish Mills		none	NO	NO
DSQ	281	Rutherford River	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98204	none	YES	NO
DSQ	282	Soo River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Richmond Ply	PAM 99001	none	YES	NO
DSQ	283	Green River	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF		none	NO	NO
DSQ	284	Ure Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSQ	285	Kakila Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Canfor		none	NO	NO
DSQ	286	Billygoat Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF		none	NO	NO
DSQ	287	Tuwasus Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Canfor / MoF		none	NO	NO
DSQ	288	Snowcap Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Canfor		none	NO	NO
DSQ	289	Britannia Creek	NO	NO	NO	NO	NO	NO	NO	NO	4	Richmond Ply	PAM 99001	none	NO	NO
DSQ	290	Furry Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	MoF	PAA 00201	none	YES	NO
DSQ	291	Deeks Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Terminal		none	NO	NO
DSQ	293	Thistle Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	MoF		none	YES	NO

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DSQ	294	Stawamus River	NO	NO	YES	YES	YES	YES	YES	NO	1	MoF	PAA 00201	none	NO	NO
DSQ	295	Woodfibre Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor / MoF		none	NO	NO
DSQ	296	Shannon Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF		none	NO	NO
DSQ	297	Kallahne Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	MoF	PAA 00201	none	NO	NO
DSQ	298	Lions Bay	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	Richmond Ply		none	NO	NO
DSQ	299	Mill Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSQ	300	Upper Lillooet River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF	PAM 99001	none	NO	NO
DSQ	301	Middle Lillooet River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	CRB	PAM 99001	none	NO	NO
DSQ	302	Lillooet Lake	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	3	Squamish Mills	PAM 99001	none	NO	NO
DSQ	303	Lower Lillooet River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	Canfor/ Interfor		none	NO	NO
DCR	304	Apple River	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98204	none	NO	NO
DCR	305	Stafford River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DCR	306	Frazer River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Western		none	NO	NO
DPM	307	Wakash Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	308	Blind Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	309	Millard Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	310	Franklin River	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	311	Devereaux Creek	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98608	IWA	NO	NO
DPM	312	Lower Klinaklini River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	313	Ahnuhati River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DPM	314	Kwalate Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor	PAM 98608	none	NO	NO
DPM	315	Sim Creek	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor	PAM 98 608	IWA	NO	NO
DPM	316	West Klinaklini River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	317	Atway/Kelesse River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	318	Wakeman River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	319	Kingcome River	NO	NO	YES	YES	YES	YES	YES	NO	1	Interfor	PAM 98608	IWA	NO	NO
DPM	320	Atlatzi River	YES	NO	YES	YES	YES	YES	YES	NO	1	Interfor	PAM 98608	IWA	NO	NO
DPM	321	Satsalla River	NO	NO	YES	YES	YES	UNKNOWN	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	322	Kakweikin River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	323	Sallie Creek	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	324	Matsin Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	325	McAlister Creek	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	326	Lull Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01607	none	NO	NO
DPM	327	Seymour River	NO	NO	NO	NO	YES	NO	NO	NO	4			none	NO	NO
DCR	328	Tom Browne Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL	PAM 98505	none	NO	NO
DCR	329	Read Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL	PAM 98505	none	YES	NO
DCR	330	Heydon Creek	YES	NO	NO	YES	YES	YES	YES	NO	1	Western	PAM 98504	none	NO	NO
DCR	331	Wortley Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL	PAM 98505	none	YES	NO
DCR	332	Fulmore River	NO	NO	NO	NO	YES	YES	NO	NO	3	TFL	PAM 98505	none	NO	NO
DPM	333	Ahta River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DPM	334	Miriam	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	335	Charles Creek	NO	NO	NO	NO	YES	NO	NO	NO	4			none	NO	NO
DPM	336	Waymus Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	337	Taatz Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	338	Huaskin Lake	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	339	Gilford Island	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO
DPM	340	Broughton Island	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	341	Woss Lake	YES	NO	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	Namgis FN IWA	NO	YES
DPM	342	Davie River	YES	NO	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	Namgis FN IWA	NO	YES
DPM	344	Maquilla River	YES	NO	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	Namgis FN IWA	NO	YES
DPM	345	Kaipit Creek	YES	YES	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	Namgis FN IWA	NO	NO
DPM	346	Atluck Creek	YES	YES	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	Namgis FN IWA	NO	NO
DPM	347	Kilpala	NO	YES	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	Namgis FN IWA	NO	YES
DPM	348	Middle Nimpkish	YES	YES	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	Namgis FN IWA	NO	YES
DPM	349	Upper Nimpkish	YES	NO	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	Namgis FN IWA	NO	YES
DPM	350	Nimpkish Lake	YES	NO	NO	YES	NO	NOT APPLICABLE	NO	NO	3	Canfor	PAM 98603	Namgis FN IWA	NO	NO
DPM	351	Tsitika River	NO	YES	NO	YES	YES	YES	YES	NO	1	Canfor /	PAM 98603	IWA KLTTN	NO	NO
DCR	352	Naka Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98504	none	NO	NO
DPM	353	Bonanza Creek	NO	YES	NO	YES	YES	YES	YES	NO	1	TFL	PAM 98605	none	NO	NO
DPM	354	Kokish River	NO	YES	NO	YES	YES	YES	YES	NO	1	TFL	PAM 98605	none	NO	NO
DPM	355	Tsulton River	YES	YES	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	Namgis FN IWA	NO	NO
DPM	356	Kaikash	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01607	none	NO	NO
DPM	357	Cluxewe River	YES	NO	NO	YES	YES	YES	YES	YES	2	Weyerhaeuser	PAM 01607	none	NO	NO
DPM	358	Port McNeill	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DPM	359	Waukwaas River	YES	YES	NO	YES	YES	YES	YES	NO	1	Western /	PAM 98604 /	none	NO	NO
DPM	360	Marble River	NO	YES	NO	YES	YES	YES	YES	NO	1	Western /	PAM 98604 /	none	NO	NO
DPM	361	Keogh River	YES	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98604	none	NO	YES
DPM	362	Suquash Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Western		none	NO	NO
DPM	363	Benson River	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01607	none	NO	NO
DPM	364	Colonial	YES	NO	NO	YES	YES	YES	YES	NO	1	Western		none	NO	NO
DPM	365	Neroutsos North	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Western		none	NO	NO
DPM	366	Neroutsos South	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Western		none	NO	NO
DPM	367	Klaskish	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor	Pam 98608	IWA	NO	NO

District	Watershed Number	Watershed Name	Key DFO Fish Watershed	Key MELP Fish Watershed	Key Domestic Watershed	Key Watershed	Are there significant pre-code forestry impacts to fish habitat or water quality?	Is it likely that restoration efforts will be successful?	Priority Key Watershed	Does the watershed contain a significant proportion of private land?	Category	Recipient	MYA Number	Partners	Transitional Watershed	Target Watershed
DPM	368	Mahatta Creek	YES	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98604	none	NO	NO
DPM	369	Kewquodie	NO	NO	NO	NO	YES	YES	NO	NO	3	Western		none	YES	NO
DPM	370	Brooks	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DPM	371	Kwakiutl Point	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98608	IWA	YES	NO
DPM	372	Winter Harbour	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	373	Koprino River	NO	NO	NO	NO	YES	YES	NO	NO	3	Western		none	NO	NO
DPM	374	Hathaway Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Western		none	YES	NO
DPM	375	MacJack	NO	NO	NO	NO	YES	YES	NO	NO	3	Western		none	NO	NO
DPM	376	Cape Palmerston	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	377	San Josef	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98604	none	YES	NO
DPM	378	Goodspeed	YES	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98604	none	NO	NO
DPM	379	[illegible]	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98604	none	YES	NO
DPM	380	Quatse River/Booth Creek	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	381	Storey's Beach	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DPM	382	Tsulquate	YES	NO	YES	YES	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DPM	383	Songhee River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	384	Shushartie River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DPM	385	Nahwitti River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DPM	386	Stranby River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Western		none	NO	NO
DPM	387	Cape Scott	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Western		none	NO	NO
DSC	388	Allaire Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	389	Bishop River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor		none	NO	NO
DSC	390	Southgate River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor		none	NO	NO
DSC	391	Teaquahan River	NO	NO	NO	NO	YES	YES	NO	NO	3	Terminal		none	NO	NO
DSC	392	Heakamie River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Terminal		none	NO	NO
DSC	393	Klattasine River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor		none	NO	NO
DSC	394	Scar Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	395	Jones Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	396	Homathko River	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor		none	NO	NO
DSC	397	Orford River	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor		none	NO	NO
DCR	398	Phillips River	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01507	none	NO	NO
DSC	399	Bear River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	400	Brem River	NO	YES	NO	YES	YES	YES	YES	NO	1	Interfor		none	NO	NO
DSC	401	Filer Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	402	Kitte River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	403	Little Toba River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	404	Toba River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	Interfor	PAM 98308	none	NO	NO
DSC	405	Tahumming River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor		none	NO	NO
DSC	406	Mohr Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	407	Quatam River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98308	none	NO	NO
DSC	408	Theodosia/Olsen River	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01307	Sliammon	NO	NO
DSC	409	Daniels River	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01307	none	YES	NO
DSC	410	Eldred River	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01307	Sliammon	YES	NO
DSC	411	Powell River	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01307	none	YES	NO
DSC	412	Freda Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01307	none	NO	NO
DSC	413	Lois River	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01307	none	YES	NO
DSC	414	Texada Island	NO	NO	YES	YES	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DSC	415	Brittain River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	SBFEP		none	NO	NO
DSC	416	Deserted River	YES	NO	NO	YES	NO	NOT APPLICABLE	NO	NO	3	SBFEP		none	NO	NO
DSC	417	Hunaechin Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	418	Stakawus Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	Interfor		none	NO	NO
DSC	419	Vancouver River	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor		none	NO	NO
DSC	420	High Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor		none	NO	NO
DSC	421	Tzoonie River	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98308	none	NO	YES
DSC	422	Clowhom River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor		none	NO	NO
DSC	423	Lang Creek	YES	NO	YES	YES	YES	YES	YES	NO	1	Western /	PAM 98304 /	none	NO	NO
DSC	424	Skwawka River	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor		none	NO	NO
DSC	425	Sechelt Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Canfor	PAM 98303	none	NO	NO
DSC	426	Thornhill Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Canfor		none	NO	NO
DSC	427	Potlatch Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Canfor		none	NO	NO
DSC	428	McNab Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Canfor		none	NO	NO
DSC	429	Misery Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Terminal		none	NO	NO
DSC	430	Rainy River	NO	NO	NO	NO	YES	NO	NO	NO	4	Canfor		none	NO	NO
DSC	431	McNair Creek	NO	NO	YES	YES	YES	YES	YES	NO	1	Canfor		none	NO	NO
DSC	432	Wilson Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Canfor	PAM 98303	none	NO	NO
DSC	433	Chapman Creek	NO	NO	YES	YES	YES	YES	YES	NO	1	Interfor	PAM 98308	none	NO	YES
DSC	434	Gray Creek	YES	NO	YES	YES	YES	YES	YES	NO	1	Interfor	PAM 98308	none	NO	NO
DSC	435	Earle Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98304	none	NO	NO
DSC	436	Sechelt Penninsula	NO	NO	NO	NO	YES	YES	NO	NO	3	Terminal		none	NO	NO
DSC	437	Murtle Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3			none	NO	NO
DSC	438	Seshal Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor		none	NO	NO
DSC	439	Perkett Creek	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor		none	NO	NO
DSC	440	Treat Creek	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor		none	NO	NO

District	Watershed Number	Watershed Name	Key DFO Fish Watershed	Key MELP Fish Watershed	Key Domestic Watershed	Key Watershed	Are there significant pre-code forestry impacts to fish habitat or water quality?	Is it likely that restoration efforts will be sucessful?	Priority Key Watershed	Does the watershed contain a significant proportion of private land?	Category	Recipient	MYA Number	Partners	Transitional Watershed	Target Watershed
DSC	441	Narrows Inlet	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98308	none	YES	NO
DSC	442	Slammon Lake	NO	NO	YES	YES	NO	NOT APPLICABLE	NO	NO	3	SBFEP		none	NO	NO
DMC	443	Neechantz River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	Western	PAM 98704	none	NO	NO
DMC	444	Machmell River	YES	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98704	none	NO	YES
DMC	445	Sheemahant River	YES	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98704	none	NO	YES
DMC	446	Lemolo Creek	NO	NO	NO	NO	YES	NO	NO	NO	4	Western		none	NO	NO
DMC	447	Talchako River	NO	NO	YES	YES	YES	YES	YES	NO	1	Interfor	PAM 98708	IWA	NO	YES
DMC	448	Noomst Creek	NO	NO	YES	YES	YES	YES	YES	NO	1	Interfor	PAM 98708	IWA	NO	NO
DMC	449	Nusatsum River	NO	YES	YES	YES	YES	YES	YES	NO	1	Interfor	PAM 98708	IWA	NO	NO
DMC	450	Nooklikonnik Creek	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor		IWA	NO	NO
DMC	451	Snooth Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	452	Thorsen Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF		none	NO	NO
DMC	453	Smitley Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	IWA	NO	NO
DMC	454	Noeick Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	IWA	NO	NO
DMC	455	Taleomy River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	IWA	NO	NO
DMC	456	Asseek River	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98708	IWA	NO	NO
DMC	457	Washwash River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	458	Inziana River	YES	NO	NO	YES	YES	NO	NO	NO	4	Interfor		IWA	NO	NO
DMC	459	Kwatna River	YES	YES	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98708	IWA	NO	YES
DMC	460	Chuckwalla River	NO	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98704	none	NO	YES
DMC	461	Kilbella River	YES	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98704	none	NO	YES
DMC	462	Clyak River	YES	NO	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98708	IWA	NO	NO
DMC	463	Ickna River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	464	Tzeo River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	465	Hot Springs Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor	PAM 98708	none	NO	NO
DMC	466	Thowals	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	467	Doc	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01707	none	NO	NO
DMC	468	Nootum River	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01707	Heiltsuk FN	NO	NO
DMC	469	Milton,Inrig	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98704	none	YES	NO
DMC	470	Koeye River	YES	NO	NO	YES	YES	YES	YES	NO	1	Weyerhaeuser	PAM 01707	none	NO	NO
DMC	472	Sowick	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCR	473	Piper River	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98704	none	NO	NO
DMC	474	Smokehouse Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	475	Nicknaqueet	NO	NO	NO	NO	YES	NO	NO	NO	4	MoF		Oweekeno FN	YES	NO
DMC	476	Clayton Falls Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	IWA	YES	NO
DMC	477	Tatsquan	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	478	Nieumiamus	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	IWA	NO	NO
DMC	479	Nooseck River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	IWA	NO	NO
DMC	480	Necleetsconnay River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	IWA	NO	NO
DMC	481	Saloomt River	YES	YES	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98708	IWA	NO	NO
DMC	482	Tseapseahoolz Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	none	NO	NO
DMC	483	Noosgulch River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	IWA	YES	NO
DMC	484	Jump Across Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	485	Humpback Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	486	Swallop Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	487	Sutslem Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	488	Sakumtha River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	489	Kimsquit River	YES	YES	NO	YES	YES	YES	YES	NO	1	MoF		none	NO	YES
DMC	490	King George Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	491	Campbell Island	NO	NO	YES	YES	NO	NOT APPLICABLE	NO	NO	3	Western	PAM 98704	none	NO	NO
DMC	492	Bella Colla River	YES	YES	NO	YES	YES	YES	YES	NO	1	Interfor	PAM 98708	IWA	NO	YES
DMC	493	Young Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor		IWA	NO	NO
DMC	494	Roscoe Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	495	Link River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	496	Martin River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	497	Clatse Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	498	Ellerslie Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	499	Mooto Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	500	McPherson Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	501	Tankeah R./Cheenis Lake	YES	NO	NO	YES	YES	YES	YES	NO	1	Western	PAM 98704	none	NO	NO
DMC	502	Pooley Island	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	503	Cascade	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	504	Snowquiltz River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	505	Nuash Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	506	White Cliff Point	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	507	Labouchere Channel East	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor	PAM 98708	none	NO	NO
DMC	508	King Island	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98708	IWA	NO	NO
DMC	509	Dean River	NO	YES	NO	YES	YES	YES	YES	NO	1	Western	PAM 98704	none	NO	NO
DMC	510	Bernhardt Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	511	Bottleneck Creek	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	512	Sigutlat Lake	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	513	Atnarko River	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	514	North Klinaklina River	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor	PAM 98608	IWA	NO	NO

District	Watershed Number	Watershed Name	Key DFO Fish Watershed	Key MELP Fish Watershed	Key Domestic Watershed	Key Watershed	Are there significant pre-code forestry impacts to fish habitat or water quality?	Is it likely that restoration efforts will be successful?	Priority Key Watershed	Does the watershed contain a significant proportion of private land?	Category	Recipient	MYA Number	Partners	Transitional Watershed	Target Watershed
DMC	515	Takia River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	516	Rainbow	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	517	Nacall River	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	518	Doos Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	519	Dallery Creek	YES	NO	NO	YES	NO	NOT APPLICABLE	NO	NO	3	Interfor	PAM 98708	none	NO	NO
DMC	520	Sandell River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor	PAM 98708	none	NO	NO
DMC	521	Allard Creek	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor	PAM 98708	none	NO	NO
DCR	522	Eliza	NO	NO	NO	NO	YES	YES	NO	NO	3	Western	PAM 98704	none	NO	NO
DCR	523	Narrowgut	NO	NO	NO	NO	YES	UNKNOWN	NO	NO	3	Interfor	Pam 98508	IWA	NO	NO
DCR	524	Kaouk River	NO	YES	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCR	525	Artlish River	YES	NO	NO	YES	YES	YES	YES	NO	1	Canfor / TFL	M 98503 PAM 98	none	NO	NO
DCR	526	Kauwinch River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98508	FN	YES	NO
DCR	527	Malksope/Power/Kashutl	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98508	FN	YES	NO
DCR	528	Kyuquot	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98508	FN	YES	NO
DCR	529	Nasparti	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98508	none	NO	NO
DPM	530	Upper Klinaklin River	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Interfor		none	NO	NO
DCR	531	Tashish	YES	NO	NO	YES	YES	YES	YES	NO	1	Canfor	PAM 98503	IWA	NO	NO
DSI	532	Cous Creek	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	Hupacasath FN	YES	NO
DSI	533	Pachena River	NO	NO	NO	NO	YES	YES	NO	NO	3	Weyerhaeuser	PAM 01407	Huu-ay-aht FN	NO	NO
DSI	534	Cobble Hill	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	YES	2			none	NO	NO
DSI	535	Indian Bay	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DCR	536	Haana Channel	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DPM	537	Pink Creek	NO	NO	YES	YES	YES	YES	YES	NO	1	Canfor	PAM 98603	none	NO	YES
DMC	539	Nekite River	NO	YES	NO	YES	YES	YES	YES	NO	1			none	NO	NO
DMC	540	Owikeno Lake	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DMC	541	Quatlena River	NO	NO	NO	NO	YES	YES	NO	NO	3	Interfor	PAM 98706	none	NO	NO
DMC	542	Ashlulm Creek	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5			none	NO	NO
DSQ	544	Gates	YES	NO	NO	YES	UNKNOWN	UNKNOWN	NO	NO	5	Interfor / MoF		none	NO	NO
DSQ	545	Spruce	NO	NO	YES	YES	UNKNOWN	UNKNOWN	NO	NO	5	MoF		none	NO	NO
DSQ	546	Haylmore	NO	NO	NO	NO	UNKNOWN	UNKNOWN	NO	NO	5	MoF		none	NO	NO
DCK	547	Deroche	NO	NO	YES	YES	YES	YES	YES	NO	1	Canfor	PAM 98103	none	NO	NO
DCK	548	Bridal Falls	NO	NO	NO	NO	NO	NOT APPLICABLE	NO	NO	3	Fraser Cartel		none	YES	NO
DSC	549	Haslam Creek	NO	NO	YES	YES	YES	YES	YES	NO	1	Interfor		none	NO	NO

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MoF	Watershed	Name of	Watershed	Name of	Overview Assessments			Prescriptions			Works			Routine Effectiveness Evaluation		
District	Number	Watershed	Transitional	Sub-basin	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream
DCR	1	Adam River	yes	Upper Adam	C	C		P			C	C	C	P		
DCR	1	Adam River	yes	Lower Adam	C	C		P			P			P		
DCR	2	Eve River	no	KunnumCreek	C	C	C	C	P	C	P	C	C	O		
DCR	2	Eve River	no	Main Stem	C	C	C	C	C	P	C	O	P	O	O	O
DCR	2	Eve River	no	Tlatlos Creek	C	C	P	C	P	P	P	P	P	O		
DPM	3	Vernon Lake	no	Vernon Lake	C		C	C		O	O		O	P		
DCR	10	Muchalat	no	Muchalat	C	P	O	C	P	O	C	P	O	P	P	O
DCR	11	Upana	no	Upana	O	P	P	P	P	P	P	P	P	P	P	P
DCR	12	Ucona	no	Ucona	O	P	P	P	P	P	P	P	P	P	P	P
DCR	13	Gold	no	Gold	P	P	P	C			O			O		
DCR	17	Heber River	no	TFL	O	O	O	P	P	P	P	P	P			
DCR	17	Heber River	no	Western	P	P	P	P	P	P						
DCR	18	Memakay River	no	Former Main				C						O		
DCR	18	Memakay River	no	Main Stem	P	P	P	P	P	P	P	P	P			
DCR	19	Grilse Creek	no	Grilse Creek	C	P	P	P	P	C	C	P	P	P		P
DCR	20	Bigtree Creek	no	Big Tree	C	C		C	P		C	O		O		
DCR	20	Bigtree Creek	no	Spirit	P	P	P	O	P	P	O	P	P	O		P
DCR	21	Upper Salmon River	no	Upper Salmon River	P	P	C	P	C	C	P	O	P			
DCR	22	Lower Salmon River	no	Mayne Creek	C			C			O			O		
DCR	22	Lower Salmon River	no	Keys Creek	C			C			O			O		
DCR	22	Lower Salmon River	no	Stowe Creek	C			C			O			O		
DCR	22	Lower Salmon River	no	Dalrymple Cr.	C			C			O			O		
DCR	22	Lower Salmon River	no	Canyon Cr.	P			P			O			O		
DCR	23	White River	no	White River	C	C		O	C		O	O		O		
DCR	24	Quadra Island	no	Quadra Island				C			O					
DCR	25	Sonora Island	yes	Sonora Island	C	C	C	O			O					
DCR	27	West Thurlow Island	no	West Thurlow Island				C			O					
DCR	28	Hardwicke Island	yes	Hardwicke Island				C			C			O		
DCR	34	Sayward Face	no	Sayward Face	P			P								
DCR	35	Kelsey Bay Face Unit	yes	M20 System	C			C			O			O		
DCR	36	Lower Campbell River	no	Lower Campbell River									O			
DCR	39	Oyster River	no	Oyster River									O			
DCR	49	Tlupana River	no	Tlupana River	P	P	P	P	P	P	P	P	P	P	P	P
DCR	50	Conuma River	no	Conuma River	O	P	P	O	P	P	O	P	P	P	P	P
DCR	52	Nootka Island	no	Brodick	C			C			C			O		
DCR	52	Nootka Island	no	Crawfish	C			O			O			O		
DCR	52	Nootka Island	no	Other	C			O			P			P		
DCR	53	Tahsis River	no	Tahsis River	P	P	P	P	P	P	P	P	P	P	P	P
DCR	54	Leiner/Perry River	no	Leiner/Perry River	P	P	P	P	P	P	P	P	P	P	P	P
DCR	56	Hisnit Inlet	no	Hisnit Inlet	O											
DCR	57	Tsowwin River	no	Tsowwin River	C	P	P	C	P	P	C	P	P	O	P	P
DCR	58	Tahsis Inlet	no	Tahsis Inlet	P	P	P	P	P	P	P	P	P	P	P	P
DCR	60	Little Zaballos River	yes	Little Zaballos River	C		C	C		C	O	C				
DCR	61	Zeballos River	no	Zeballos River	C		C	C		C	C		O	P		P
DCK	64	Airplane/Foley	no	Airplane/Foley	C		C	O			P		C			
DCK	65	Borden Creek	yes	Borden Creek	C			C			C					
DCK	66	Centre Creek	no	Centre Creek	C			O			O					

MoF District	Watershed Number	Name of Watershed	Watershed Transitional	Name of Sub-basin	Overview Assessments			Prescriptions			Works			Routine Effectiveness Evaluation		
					Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream
DCK	67	Chipmunk Creek	no	Chipmunk Creek	C											
DCK	68	Nesakwatch Creek	no	Nesakwatch Creek	C											
DCK	69	Paleface Creek	no	Paleface Creek	C											
DCK	71	Slesse Creek	no	Slesse Creek	C	C	C	C	C		C	O	P			
DCK	72	Tamihi Creek	yes	Tamihi Creek	C			C			C					
DCK	73	Yola/Cantelon Creeks	no	Yola/Cantelon Creeks	P			P			P					
DCK	74	Silverhope Creek	no	Silverhope Creek	P	C		P	P	P	O	O	P			
DCK	78	Sowoqua Creek	no	Sowoqua Creek	C		C	C			P			P		
DCK	80	Deneau Creek	yes	Deneau Creek	C			C			C					
DCK	81	Ladner Creek	yes	Ladner Creek	C			C			C					
DCK	82	Coquihalla River	no	Coquihalla River		C							O			
DCK	86	Spuzzum Creek	no	Spuzzum Creek	C	C	C	C			C			P		
DCK	88	Scuzzy Creek	no	Scuzzy Creek	C	C		C			C					
DCK	89	Nahatlatch River	no	Nahatlatch River	C		C	C		O	O		O			
DCK	91	Hornet/Clear Creeks	yes	Hornet/Clear Creeks	C			C			O			P		
DCK	92	Chehalis River	no	Chehalis River	P		C		C	C		O	O			
DCK	93	Cogburn/Talc Creeks	no	Cogburn/Talc Creeks	C	C	C	P								
DCK	94	Harrison River	no	Squakum/Sasin	C			C			C					
DCK	96	Norrish Creek	no	Norish Creek	C	C	C	O	C		O	O		P		
DCK	96	Norrish Creek	no	Dickson Creek				C			C			O		
DCK	96	Norrish Creek	no	Rose Creek				C			O					
DCK	96	Norrish Creek	no	Cyr Creek				C			O					
DCK	96	Norrish Creek	no	Hanson Creek				O								
DCK	96	Norrish Creek	no	West Fork				P								
DCK	97	Cascade Creek	no	Cascade Creek	C			P			P					
DCK	100	Corbold Creek	no	Corbold Creek				P								
DCK	101	Fish Hatchery Creek	no	Fish Hatchery Creek						C			C			
DCK	106	Upper Pitt River	no	Upper Pitt River	P	C	C	P	C	C		C				
DCK	107	Or Creek	no	Or Creek	C	C	C		C			C	O			
DCK	108	Coquitlam River	no	Coquitlam River									C			
DCK	109	Chilliwack River	no	Chilliwack River		C				O			O			
DSQ	110	Indian River	no	Indian River	C			O			O	P	O	O		
DCK	120	Log Creek	no	Log Creek	C			O			O					
DCK	123	Wahleach Creek	no	Wahleach Creek	C	C		C	C		C		C	P		
DCK	124	Hicks Creek	no	Hicks Creek	C			C			C	O				
DCK	127	Boston Bar Creek	no	Boston Bar Creek	C			C			C					
DCK	128	Liumchen Creek	no	Liumchen Creek	C											
DQC	138	Massett	no	Massett	C			O	O	P	P	P	P			
DQC	138	Massett	no	Mamin	C						P			P		
DQC	139	Yakoun	no	Yakoun	C	O	O	P	P		P	P		P		P
DQC	140	Alliford	yes	Alliford	C			C			O			P		
DQC	141	Louise	no	Louise	C	O	O	C	P	P	C	O	O	O	P	P
DQC	142	Naden	no	Naden	C	C	C	C	C	O	O	P	O	O	P	P
DQC	143	Cave	no	Cave	C	P	P	O	P	P	O	P	P	P	P	P
DQC	144	Tartu	yes	Tartu	C	C	C	C	O	O	C	O	O	P	P	P
DQC	145	Rennell	yes	Rennell	C			C			C			O		
DQC	146	Honna	no	Honna	C			P			P					
DQC	147	Tarundl	no	Tarundl	C			C			C			O		

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					Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream
DQC	148	Chinukundl	yes	Chinukundl	C			C			C			O		
DQC	149	Deena	no	Deena	O		C	P	O	O	P	O	O	P	O	O
DQC	149	Deena	no	Weeping Willie									P			P
DQC	150	Copper	no	Western	C		C	C			O			P		
DQC	150	Copper	no	JS Jones	O		C	P	O	O	P	O	O	P	P	P
DQC	150	Copper	no	JS Jones Blaine Creek			P			P						
DQC	151	Pallant	no	Pallant	C			C			C			P		
DQC	152	Tasu	no	Wilson	C			C			O			O		
DQC	153	Sewell	no	Big Goose	C	O	C	C		C	C		C	P		O
DQC	153	Sewell	no	Talunkwan	C		C	C		C	C			P		O
DQC	153	Sewell	no	Little Goose	C		O	C	O	O	C	P	O	O	P	O
DQC	153	Sewell	no	Clint	C		O	C		O	C	P	O	O	P	O
DQC	153	Sewell	no	Thorsen	C		O	C		O	C	P	O	O	P	O
DQC	153	Sewell	no	North Crescent	C			C			C			P		
DQC	153	Sewell	no	Sewell Point	C			C			C			P		
DQC	153	Sewell	no	South Crescent	C			C			C			P		
DQC	153	Sewell	no	Flat	C		O	C	O	O	P		P	P		P
DQC	153	Sewell	no	Lagoon	C	O	O		O		P				P	
DQC	153	Sewell	no	Dump	C						P			P		
DQC	153	Sewell	no	Edwards	C						P			P		
DQC	153	Sewell	no	Crescent	C											
DQC	153	Sewell	no	Dana	C											
DQC	153	Sewell	no	Dass	C											
DQC	153	Sewell	no	Pacofi	C											
DQC	153	Sewell	no	Porter	C											
DQC	154	Talunkwan	yes	Talunkwan	C			C			C					
DQC	155	Tlell	no	Tlell	C				P			P		P		
DQC	163	Cumshewa	no	Cumshewa	P			P			P			P		
DSI	171	Gordon River	no	Gordon River	C	C	C	O	O	O	O	O	O	O		
DSI	172	San Juan River	no	San Juan River	O	O	O	O	O	O	O	O	O	O		
DSI	173	Sombrio Creek	no	Sombrio Creek	C			C			C			P		
DSI	174	Loss Creek	no	Loss Creek	C			C			C			P		
DSI	209	Camper Creek	no	Camper Creek				C			C					
DSI	210	Caycuse River	no	Weywehaeuser Haddon			C	O		C	O			P		
DSI	210	Caycuse River	no	Caycuse River	C	O	O	O	O		O	O				
DSI	212	Nitinat River	no	Nitinat River	P			O			O			P		
DSI	212	Nitinat River	no	Little Nitinat	P			P			P			P		
DSI	213	Nitinat Lake	no	Nitinat Lake	P			P			P					
DSI	215	Klanawa/Darling	no	West Fork	P	P	O	O		P	O		P	P		P
DSI	215	Klanawa/Darling	no	Darling	P	P	O	O			P			P		
DSI	215	Klanawa/Darling	no	Klanawa	P	P	O	P		P	P		P	P		P
DSI	215	Klanawa/Darling	no	East Fork	P	P	O	P		P	P		P	P		P
DSI	216	Sarita	no	Sarita	C		C	O		O	O		O	P		O
DSI	216	Sarita	no	South Sarita	C		C	O		O	O		O	P		O
DSI	216	Sarita	no	Sabrina	C		C	O		O	O		O	P		O
DSI	216	Sarita	no	Hunter Creek	C		C			O			O			P
DSI	218	Stamp River	no	Stamp River			C			C			C			
DSI	221	Rosewall Creek	no	Rosewall Creek	C			C			C					

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					Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream
DSI	225	Sproat Lake	no	Taylor River	P		C	O	O	O	O	P	O	P	P	O
DSI	225	Sproat Lake	no	Sproat Lake	P			O			O			P		
DSI	231	Mooyah River	no	Moyeha River	C		C	O		C	O		O	P		P
DSI	232	Escalante River	no	Escalante River	C			C			C			P		
DSI	234	Hesquiate Lake	no	Hesquiate Lake	C			C		C	P		C	P		
DSI	235	Rondeault Point	no	Rondeault Point	C			C			C			P		
DSI	236	Hot Springs Cove	no	Hot Springs Cove				C			C					
DSI	237	Flores Island	no	Flores Island				C			C					
DSI	238	Atleo (LU)	no	Atleo (LU)	C	C		O	C		P	P				
DSI	239	Cypre River	no	Cypre River	C		C	O	O	O	O	P	O	P	P	O
DSI	240	Cotter Creek	yes	Catface				C			C					
DSI	241	Matlset	no	Matlset				C			C					
DSI	242	Bulson River	yes	Warn Creek				O			O					
DSI	244	Rolling Stone	no	Rolling Stone				C			C					
DSI	245	Tranquil Creek	yes	Tranquil Creek				O			O			P		
DSI	246	Tofino Creek	yes	Marble Creek				O			O			P		
DSI	247	Clayoquot River	no	Clayoquot River				O			O					
DSI	248	Kennedy River	no	Sand River				C			C			P		
DSI	249	Kennedy Flats	no	Kennedy Flats	C	C	C	C	C	C	C	P	P			
DSI	249	Kennedy Flats	no	Lost Shoe	C		C	C	O	C	C	P	O	P		O
DSI	249	Kennedy Flats	no	Upper Kennedy			C	C		C	C		C			
DSI	249	Kennedy Flats	no	Merchantile			C	C		C	C		C			
DSI	249	Kennedy Flats	no	Baot Launch	C	O	O	C	O	O	C		O	P		O
DSI	249	Kennedy Flats	no	Muriel Ridge				C			C					
DSI	249	Kennedy Flats	no	Little Toquart				C			C					
DSI	249	Kennedy Flats	no	Marion Creek				C			C					
DSI	249	Kennedy Flats	no	MoF Kennedy				C			C					
DSI	250	Toquart	no	Toquart	C			C			C					
DSI	251	Effingham	no	Effingham	O											
DSI	252	Henderson	no	Henderson				C	O		O	O	C	P		
DSQ	254	Ashlu Creek	no	Ashlu Creek	C			O			O	O	O	P		
DSQ	256	Brandywine River	yes	Brandywine River	C			C			O			O		
DSQ	264	Mashiter Creek	no	Mashiter Creek	C			C			C			P		
DSQ	265	Mamquam River	no	Mamquam River				C			O	O		O		
DSQ	266	Squamish River	no	Squamish River	C			O			O			P		
DSQ	267	Fire Creek	yes	Fire Creek				C	C		O			P		
DSQ	270	Gowan Creek	yes	Gowan Creek	C			O			O			P		
DSQ	273	Twin One Creek	yes	Twin One Creek				C			O			P		
DSQ	277	Ryan River	no	Ryan River	O			O	P		P	P	P	P		
DSQ	279	Meager Creek	yes	Meager Creek	C			C			P			O		
DSQ	280	North Creek	no	North Creek	P				P							
DSQ	281	Rutherford River	yes	Rutherford River	C			C			O			P		
DSQ	282	Soo River	yes	Soo River				C			C			P		
DSQ	289	Britannia Creek	no	Britannia Creek	C			C	C		C			P		
DSQ	290	Furry Creek	yes	Furry Creek	C			C			C			O		
DSQ	294	Stawamus Creek	no	Stawamus Creek	C			C			C			O		
DSQ	297	Kallahne Creek	no	Kallahne Creek	C			C			C			O		
DSQ	300	Upper Lillooet River	no	Upper Lillooet River	P				P							

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DSQ	301	Middle Lillooet River	no	Railroad	O			P	P		P			P		
DSQ	302	Lillooet Lake	no	Noeth Lizzie	C			C	C		O			P		
DCR	304	Apple River	no	Apple River			C									
DPM	310	Franklin River	no	Franklin River	C			C			C					
DPM	311	Devereaux Creek	no	Devereaux Creek	C			C			C					
DPM	312	Lower Klinaklini River	no	Lower Klinaklini River	C			C								
DPM	315	Sim Creek	no	Sim Creek	C											
DPM	317	Atway/Kelesse River	no	Atway/Kelesse River	O											
DPM	318	Wakeman River	no	Wakeman River	O											
DPM	319	Kingcome River	no	Kingcome River	O			O								
DPM	320	Atlatzi River	no	Atlatzi River	C		C	C								
DPM	321	Satsalla River	no	Satsalla River	O											
DPM	323	Sallie Creek	no	Sallie Creek				C			C					
DCR	328	Tom Browne Creek	no	Tom Browne Creek				O			O			O		
DCR	329	Read Creek	yes	Read Creek				C			O					
DCR	330	Heydon Creek	no	Heydon Creek	C			C			O			P		
DCR	332	Fulmore River	no	Fulmore River				C			C			O		
DPM	339	Gilford Island	no	Gilford Island	P											
DPM	341	Woss Lake	no	Woss Lake	C	P	C	C	P	O	C		O			O
DPM	342	Davie River	no	Davie River	C	P	C	C	P	O	C	P	O			O
DPM	344	Maquilla River	no	Maquilla River	C	P	C	O	P	O	O	P	O			O
DPM	345	Kaipit Creek	no	Kaipit Creek	C		C	O		O	O		P			
DPM	346	Atluck Creek	no	Atluck Creek	C		C	O		O	O		P			
DPM	347	Kilpala	no	Kilpala	C		C	O		O	O		O			O
DPM	348	Middle Nimpkish	no	Middle Nimpk	C	P	C	O	P	O	O	P	O			O
DPM	349	Upper Nimpkish	no	Upper Nimpk	C	P	C	O	P	O	O	P	O			O
DPM	350	Nimpkish Lake	no	Nimpkish Lake	C		C	C			O					O
DPM	351	Tsitika River	no	Tsitika River	C		C	C		O	C					
DCR	352	Naka Creek	no	Cedarstadt	C			C			C			O		
DPM	353	Bonanza Creek	no	Bonanza Creek	C	C	C	O	O	O	O	P	P	P	P	P
DPM	354	Kokish River	no	Kokish River	C	C	C	O	O	O	O	P	P	P	P	P
DPM	355	Tsulton River	no	Tsulton	O	P	P		P	P						P
DPM	357	Cluxewe River	no	Cluxewe River			C	C								
DPM	359	Waukwaas River	no	Waukwaas River	C											
DPM	360	Marble River	no	Victoria East	C		C	O		O			O			O
DPM	360	Marble River	no	Victoria West	C			C			O			P		
DPM	360	Marble River	no	Lippy	C		C									
DPM	360	Marble River	no	Narrows	C		C									
DPM	360	Marble River	no	Upper Marble	C			O			O			P		
DPM	360	Marble River	no	Teihsum	C			O			O			P		
DPM	360	Marble River	no	Marble	C											
DPM	361	Keogh River	no	Keogh River	C	O		C	O	O	O	O	O	P	P	P
DPM	364	Colonial	no	Colonial	P	C	C	P		C	P		O	P		P
DPM	364	Colonial	no	Jeune Landing				C			O			P		
DPM	364	Colonail	no	Teeta	C			P			P			P		
DPM	364	Colonail	no	Caycuse	P	P	P	P	P	P	P	P	P	P	P	P
DPM	364	Colonail	no	Cayeqle	P	P	P	P	P	P	P	P	P	P	P	P
DPM	367	Klaskish	no	Buck Creek	O	C		O	C		O			P		

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					Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream
DPM	368	Mahatta Creek	no	Mahatta Creek				O	P	O	P	P	P	O	P	O
DPM	369	Kewquodie	yes	Kewquodi	C			C			O					
DPM	369	Kewquodie	yes	Klootchlimmis									C			O
DPM	371	Kwakiutl Point	yes	Le Mare	O			O			O			P		
DPM	372	Winter Harbour	no	Winter Harbour	C											
DPM	373	Koprino River	no	Koprino River				C			C			P		
DPM	374	Hathaway Creek	yes	Pegattem	C											
DPM	375	MacJack	no	MacJack	C											
DPM	377	San Josef	yes	San Josef						C			C			
DPM	378	Goodspeed	no	Goodspeed		C	C	C	P	P	C	P	P	O		
DPM	379	Wanokana Creek	yes	Hushamu	C			C			O			P		
DPM	379	Wanokana Creek	yes	Clesklagh	C											
DPM	379	Wanokana Creek	yes	Stephens	C											
DPM	379	Wanokana Creek	yes	Washlawlis	C											
DPM	385	Nahwitti River	no	Nahwitti River				C			C			P		
DSC	391	Teaquaham River	no	Teaquaham River				C								
DSC	397	Orford River	no	Orford River	C								O			
DCR	398	Phillips River	no	Phillips River	C		C	C			C			O		
DSC	400	Brem River	no	Brem River				O			P					
DSC	402	Klite River	no	Klite River	O											
DSC	403	Little Toba River	no	Little Toba River	O											
DSC	404	Toba River	no	Toba River	O											
DSC	405	Tahumming River	no	Tahumming River	C			C								
DSC	407	Quatam River	no	Quatam River	C			O			O					
DSC	408	Theodosia/Olsen River	no	Theodosia/Olsen River	C			C			C	P		P		
DSC	409	Daniels River	yes	Daniels River	C		C	C			C			O		
DSC	410	Eldred River	yes	Eldred River	C	C	C	C			P			O		
DSC	411	Powell River	yes	Powell River	C		C	C			C			O		
DSC	412	Freda Creek	no	Freda Creek	C	P		O	P		O	P		P		
DSC	413	Lois River	yes	Lois River	C			C			O			O		
DSC	421	Tzoonie River	no	Tzoonie River				C								
DSC	421	Tzoonie River	no	Chickwat				C			O	C	P			
DSC	421	Tzoonie River	no	Scrub				C								
DSC	422	Clowhom River	no	Clowhom River	O											
DSC	423	Lang Creek	no	Lang Creek	P	P		P	P	P	P	P	P			
DSC	425	Sechelt Creek	no	Sechelt Creek							O					
DSC	426	Thornhill Creek	no	Thornhill Creek				C								
DSC	427	Potlatch Creek	no	Potlatch Creek				C								
DSC	428	McNab Creek	no	McNab Creek				C								
DSC	431	McNair Creek	no	McNair Creek				C			P					
DSC	433	Chapman Creek	no	Chapman Creek				O			O		C	P		
DSC	434	Gray Creek	no	Gray Creek				O			P			P		
DSC	438	Seshal Creek	no	Seshal Creek	C											
DSC	439	Perkett Creek	no	Perkett Creek							C					
DSC	440	Treat Creek	no	Treat Creek							C					
DSC	441	Narrows Inlet	yes	Misery				C			O			O		
DSC	441	Narrows Inlet	yes	Tough				C								
DMC	443	Neechantz River	no	Neechantz River		P	C	C	P	C		P			P	P

[illegible]	[illegible]	[illegible]	Watershed	[illegible]	Overview			[illegible]			[illegible]			Routine Effectiveness Evaluation		
[illegible]	[illegible]	[illegible]	[illegible]	Sub-[illegible]	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream	Up Slope	Riparian	In Stream
DMC	444	Machmell River	no	Machmell River	C	P	C	C	P	C	C	P	O	P	P	P
DMC	445	Sheemahant River	no	Sheemahant River	C	P	C	C	P	C	C	P	O	P	P	P
DMC	446	Lemolo Creek	no	Lemolo Creek	C			C								
DMC	447	Talchako River	no	Talchako River	C	C	O	C	P	O	C	O	O	O	O	O
DMC	448	Noomst Creek	no	Noomst Creek	C	C	C	O			O					
DMC	449	Nusatsum River	no	Nusatsum River	C	C	C	O			O					
DMC	453	Smitley Creek	no	Smitley Creek	P	P	P	P			P					
DMC	454	Noeick Creek	no	Noeick Creek	C			P			P					
DMC	455	Taleomy River	no	Taleomy River	C	C	C	O		O	O		P			
DMC	456	Asseek River	no	Asseek River	P	P	P									
DMC	459	Kwatna River	no	Kwatna River	C	C	C	O	O	O	O	O	O	O	O	O
DMC	460	Chuckwalla River	no	Chuckwalla River	C	P	C	C	P	O	O	P	O	P	P	P
DMC	461	Kilbella River	no	Kilbella River	C	P	C	C	P	O	O	P	O	P	P	P
DMC	462	Clyak River	no	Clyak River	P	P	P	P	P	P	P	P	P			
DMC	465	Hot Springs Creek	no	Hot Springs Creek	C		C									
DMC	469	Milton,Inrig	yes	Milton,Inrig	C			C			C			P		
DCR	473	Piper River	no	Piper River	C	P	P	P	P	P	P	P	P	P	P	P
DMC	475	Nicknaqueet	yes	Nicknaqueet	C			C			O					
DMC	476	Clayton Falls Creek	yes	Clayton Falls Creek	O	O	O	O		O	O					
DMC	478	Nieimiammus	no	Nieimiammus	C	C	C	P								
DMC	479	Nooseck River	no	Nooseck River			C	P		P						
DMC	480	Necleetsconnay River	no	Necleetsconnay River	C	C	C		P	P						
DMC	481	Salloomt River	no	Salloomt River	C	C	C	P	P	P	P					
DMC	482	Tseapseahoolz Creek	no	Tseapseahoolz Creek	C	C	C	P								
DMC	483	Noosgulch River	yes	Noosgulch River	C	C	C	O								
DMC	489	Kimsquit River	no	Kimsquit River	C	P	O	C	P	O	C	P	O	P	P	P
DMC	492	Bella Colla River	no	Bella Colla River	C	C	C	O	O	O	O	O	O	O		
DMC	501	Tankleah R./Cheenis Lake	no	Tankleah R./Cheenis Lake			P			P			P			P
DMC	508	King Island	no	King Island	P	P	P									
DMC	519	Dallery Creek	no	Dallery Creek	P	P	P									
DMC	520	Sandell River	no	Sandell River	P	P	P									
DMC	521	Allard Creek	no	Allard Creek	P	P	P									
DCR	524	Kaouk River	no	Rowland	p			p			p					
DCR	525	Artlish River	no	Artlish River	C			C			O			P		
DCR	526	Kauwinch River	yes	Kauwinch River				C			C					
DCR	527	Malkslope/Power/Kashutl	yes	Malkslope	C			C			C					
DCR	527	Malkslope/Power/Kashutl	yes	Easy Creek					O	O			O			
DCR	528	Kyuquot	yes	Clanninick, Chamiss, Easy,	O			O			O			O		
DCR	528	Kyuquot	yes	Chamiss	C			O			O			P		
DCR	529	Nasparti	no	Ououkinsh	C			C			C			P		
DCR	531	Tashish	no	Sally, Helen Creeks	O			O			O			O		
DSI	532	Cous Creek	yes	Upper Cous				C			C					
DSI	532	Cous Creek	yes	Macktush				C			C					
DSI	533	Pachena River	no	Pachena				C			C					
DPM	537	Pink Creek	no	Pink	C	P	C	O	P	C	C		O			O
DMC	539	Nekite River	no	Nekite River	P	P	P	P	P	P	P	P	P	P	P	P
DMC	541	Quatlena River	no	Quatlena River	P	P	P									
DCK	547	Deroche	no	Deroche Creek	C			P			P					

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			Prescriptions			[illegible]			Routine Effectiveness Evaluation		
					[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	In Stream	Up Slope	Riparian	In Stream
DCK	548	Bridal Falls	yes	Bridal Falls	C			C			C					
DSC	549	Haslam Creek	no	Haslam Creek				O			P					

2001-02 WRP RMP Summary

Category	Count	%
1	129	24%
2	57	10%
3	186	34%
4	9	2%
5	162	30%
Total	543	100%
Key	223	41%
Priority Key	130	24%
Target	48	9%
Transitional	49	9%

20% of the prioroty key watersheds = 26

37%

Non-status Road Deactivation and Restoration
Part 6 of the
Resource Management Plan
for the Vancouver Forest Region

Non-status Road Deactivation and Restoration Resource Management Plan

Region	District	RMP Watershed Number	Watershed Name	Project Name	Proponent	Activity	HA	KM	Estimated Cost	Priority	Benefit to	Notes
RVA	DCR		No name	Towery Head	MOF	RD		5	$ 30,000	H	Safety	Logging below
RVA	DCR	30	Pye Cr.	Menzies Mt.	MOF	RD		10	$ 40,000	H	Safety/Infrastruct.	Potential slide to FSR below
RVA	DSC		Ouillett Cr.	Ouillett Cr.	TFP	HR	2		$ 25,000	H	Safety/Infrastruct.	Above Hwy
RVA	DSC		Bear Cr.	Bear Cr.	MOF	HR/RD	4		$ 200,000	H	Safety/Infrastruct.	Above Hwy
RVA	DSC		Twin Creeks	Twin Creeks	MOF	HR	2		$ 25,000	H	Safety/Infrastruct.	Above HWY
RVA	DSI	213	Nitinat Lake	Hobiton M/L	MOF	RR		11	$ 87,500	H	Safety/Access	
RVA	DSI	190	Cowichan river	Upper Skutz	MOF	RD		2.8	$ 46,000	H	Saf/Pla/Env	
RVA	DSQ	257	Callagahan	Callagahan	WESTERN	RD		3	$ 33,000	H	fety/Plant/Aesthetics	
RVA	DSQ	271	Rogers	Rogers	Interfor	RD		4	$ 45,000	H	fety/Plant/Aesthetics	
RVA	DCR	37	Quinsam R.	Iron R.	MOF	RD		1	$ 8,000	H	Env.	Potential slide to Quinsum R.
RVA	DCR	36	Lower Campbell R.	John Hart Pit	MOF	HR	3		$ 20,000	H	Env.	
RVA	DSC		Camp OC	Camp OC	CFP	RD		22.3	$ 557,000	H	Env/Pla	Level 2 complete
RVA	DCR	36	Lower Campbell R.	Beavertail	MOF	RD		4	$ 15,000	H	Env	Old structures
RVA	DSQ	260	Pilchuk	Pilchuk	Terminal/Interfor	RD		3	$ 33,000	H	Safety/Plant	
RVA	DSC	436	Sechelt Penn	Sechelt Penn	MOF	RD		40	$ 800,000	H	Env	Excludes Com Watershed
RVA	DSI	252	Henderson	Snug Side	MOF	RD/HR	0.8		$ 240,000	H	Saf/Pla/Env	
RVA	DSQ	274	Joffre	Joffre	CRB	RD		1	$ 12,000	H	Safety/Plant	
RVA	DSC		Gargoyle Cr.	Gargoyle Cr	TFP	RD		7.7	$ 308,000	H	Env	
RVA	DSC	407	Quatam R.	Quatam	IFP	RD		20	$ 800,000	H	Env/Pla	
RVA	DSI	247	Clayoquot R.	Deer Bay	MOF	RD		0.5	$ 15,000	H	Env	
RVA	DSI	213	Nitinat I.	Nit2/8	MOF	RD		23	$ 189,000	H	Pla/Aes/Env	
							11.8	158.3	$ 3,528,500			

Non-status Road Deactivation and Restoration Resource Management Plan

Region	District	RMP Watershed Number	Watershed Name	Project Name	Proponent	Activity	HA	KM	Estimated Cost	Priority	Benefit to	Notes
RVA	DCR	36	Lower Campbell R.	John Hart Rds	MOF	RD		6	$ 25,000	M	Infra	
RVA	DSC	425	Sechelt Cr.	Sechelt cr.	CFP	RD		6.4	$ 327,000	M	Env/Pla	
RVA	DSC	406	Moh Cr.	Moh Cr.	IFP	RD		10	$ 450,000	M	Env/Pla	
RVA	DSI	250	Draw Cr.	Draw cr.	MOF	RD		2	$ 12,500	M	Saf/Env	Bridge removal
RVA	DSI	249	Lost Shoe Cr.	Lost Shoe Cr.	MOF	RD		1	$ 1,200	M	Saf/Env	Bridge removal
RVA	DSI	250	Paradise Cr.	Paradise Cr.	MOF	RD		1	$ 25,000	M	Saf/Env	Bridge removal
RVA	DSI	249	Smith Cr.	Smith Cr.	MOF	RD		3	$ 8,300	M	Saf/Env	Bridge removal
RVA	DSI	249	ThorntonCr.	Thorton Cr.	MOF	RD		1	$ 3,000	M	Saf/Env	Bridge removal
RVA	DCR	60	Little Zeballos R.	Little Zeballos	MOF	HR	5	5	$ 20,000	M	Env/Site Prod.	
RVA	DSC	440	Treat cr.	Treat	IFP	HR	10	10	$ 250,000	M	Aesthetics	High Vis from Ferry
RVA	DSC		Box Canyon Cr.	Box Canyon	CFP	RD		8.7	$ 217,500	M	Env/Pla	Level II complete
RVA	DSI	198	Nanaimo R.	Boulder Cr.	MOF	RD		2.1	$ 18,000	M	Saf/Env	
RVA	DCR	36	Lower Campbell R.	Boot Lake	MOF	RD		2	$ 3,000	M	Env	Old wood culv. on fish strm
RVA	DCR	528	Kyuquot	Easy Cr.	Mof/IFP	RD		10	$ 40,000	M	Env	Drain. control.Adj instream wk done
RVA	DSC		Nor Cr.	Nor cr.	IFP	RD		4.3	$ 193,500	M	Env/Pla	Level II's complete
RVA	DSI	232	Escalante R	Escalante	MOF	RD		66.2	$ 1,655,000	M	Pla/saf	
RVA	DSI	532	Cous Cr	Cous Cr Rd	MOF	RD		1.6	$ 32,000	M	Pla/Env	
RVA	DSQ	296	Shannon	Shannon	MOF	RD		1	$ 15,000	M	Plant/Aesthetics	
RVA	DCR	60	Little Zeballos R.	Little Zeballos	MOF	RD		3	$ 60,000	M	Env	Unstable hotspots
RVA	DCR	29	Mohun	Mary L.	MOF	RD		2	$ 5,000	M	Env	Old wood culv.on fish stream
RVA	DCR		Tsowwin R/Tah. Inlet	Tsowwin TL's	MOF	RD		4	$ 70,000	M	Env/For.Prod.	Sig.silv. invest
RVA	DSC		Goat Lake	Goat Lake	Weyco	RD		10.6	$ 265,000	M	Env/Pla	Level II's complete
RVA	DSQ	287	Tuwasus	Tuwasus	MOF/Canfor	RD		2km	$ 23,000	M	Plant	
RVA	DSQ	288	Snowcap	Snowcap	Canfor	RD		1	$ 11,000	M	Plant	
				Potlach Cr	CFP	RD		33.9	$ 847,500	M	En/Pla	Level II complete
RVA	DSC	426	Thornhill Cr.	Thornhill Cr	CFP/IFP	RD/HR		25.7	$ 642,500	M	Env/Pla	Level II complete
RVA	DSQ	258	Cheekeye	Cheekeye	MOF	RD		3	$ 40,000	M	Plant	
RVA	DSQ	259	Culliton	Culliton	Western/MOF	RD		1	$ 12,000	M	Plant	
RVA	DSI	247	Clayoquot R	Deer Bay	MOF	RD		0.7	$ 14,000	M	Plantation	
RVA	DSQ	299	Mill	Mill	Interfor	RD		1	$ 11,000	M	Plant	
RVA	DCR	528	Kyuquot	St.Paul's Cr	MOF	RD/HR		5	$ 150,000	M	Env/For.Prod/fish	
RVA	DSC		Lausmann Cr	Lausmann	IFP	RD		2.5	$ 112,500	M	Env	
RVA	DSC	405	Tahumming R	Tahumming	IFP/MOF	RD		17.1	$ 769,500	M	Env/Pla	Level II's complete
RVA	DCR	528	Kyuquot	Mt.Paxton	MOF	HR	60		$ 40,000	M	ForProd/VQO	
RVA	DSC	391	Teaquahan R	Teaquahan	TFP	RD		16.3	$ 652,000	M	Env	Level II's completed
RVA	DCR		no name	Fanny Bay	MOF	HR	5	5	$ 25,000	M	Env.	Slides need attention
RVA	DCR	528	Kyuquot	Clanninick Cr	MOF/IFP	RD		10km	$ 100,000	M	Env/fish	Backend Clanninick Cr
RVA	DSQ	278	South	South	Terminal	RD		2	$ 22,000	M	Plant	
RVA	DSQ	285	Kakila	Kakila	Canfor	RD		1	$ 12,000	M	Plant	
RVA	DSC		W.Redonda Is.	W.Redonda	TFP/MOF	RD		5	$ 200,000	M	Env/Pla	
RVA	DCR		Narrowgut/Kaouk	Ray/Amai	MOF	RD		5	$ 60,000	M	Env/fish	
RVA	DCR		no name	Shamrock Cr	MOF	RD		5	$ 25,000	M	Aesthetics	
RVA	DSQ	295	Woodfibre	Woodfibre	Interfor/MOF	RD		1	$ 12,000	M	Plant	
RVA	DSC	438	Sechal Cr.	Sechal	IFP	RD		40.2	$ 645,153	M	Env/Pla	Level I complete
RVA	DSC	418	Stakawas Cr.	Stakawas Cr	IFP	RD		5	$ 225,000	M	Env	
RVA	DSC		Chusan Cr	Chusan	IFP	RD		5	$ 225,000	M	Env/Plan	
							80	342.3	$ 8,572,153			

Non-status Road Deactivation and Restoration Resource Management Plan

Region	District	RMP Watershed Number	Watershed Name	Project Name	Proponent	Activity	HA	KM	Estimated Cost	Priority	Benefit to	Notes
RVA	DCR	32	Amor de Cosmos	Bear Bight	MOF	RD		10	$ 50,000	L		Cruise ship corridor
RVA	DCR		No name	Port Neville	MOF	RD		10	$ 25,000	L	Old tower roads	Aviation hazard. Lines on old tower.
RVA	DCR		No name	Poison Cr.	MOF	RD/HR		10	$ 30,000	L		
RVA	DCR		No name	George Cr.	MOF	RD		10	$ 30,000	L	VQOs	Cruise ship corridor
RVA	DPM		Drury Inlet	Warner Bay	MOF	RD		20	$ 80,000	L	Env	
RVA	DPM		Drury Inlet	Creasy Bay	MOF	RD		4	$ 16,000	L	Env	
RVA	DPM		Drury Inlet	MacKenzie Sd	MOF	RD		3	$ 12,000	L	Env	
RVA	DPM		Islands	Malcolm	MOF	RD		40	$ 160,000	L	Env	
RVA	DPM		Islands	West Cracroft	MOF	RD		12	$ 48,000	L	Env	
RVA	DPM		Islands	Nigei	MOF	RD		8	$ 32,000	L	Env	
RVA	DPM		Islands	Gilford	MOF	RD		28	$ 112,000	L	Env	
RVA	DPM		Kingcome	Satsalla	MOF	RD		8	$ 32,000	L	Env	
RVA	DPM		Kingcome	Atlatzi	MOF	RD		27	$ 108,000	L	Env	
RVA	DPM		Kingcome	Charnaud	MOF	RD		4	$ 16,000	L	Env	
RVA	DPM		Kingcome	Belleisle	MOF	RD		3	$ 12,000	L	Env	
RVA	DPM		Kingcome	Wakeman	MOF	RD		20	$ 80,000	L	Env	
RVA	DPM		Kingcome	Charles Cr	MOF	RD		14	$ 56,000	L	Env	
RVA	DPM		Kingcome	Magson	MOF	RD		13	$ 52,000	L	Env	
RVA	DPM		Knight Inlet	Lull Bay	MOF	RD		7	$ 28,000	L	Env	
RVA	DPM		Knight Inlet	Ahnuhati	MOF	RD		8	$ 32,000	L	Env	
RVA	DPM		Knight Inlet	Hoyea Bay	MOF	RD		18	$ 72,000	L	Env	
RVA	DPM		Seymour Inlet	Parsons Cr.	MOF	RD		6	$ 24,000	L	Env	
RVA	DPM		Seymour Inlet	Mereworth Sd	MOF	RD		10	$ 40,000	L	Env	
RVA	DPM		Seymour Inlet	Alison Sd	MOF	RD		4	$ 16,000	L	Env	
RVA	DPM		Seymour Inlet	Belise	MOF	RD		4	$ 16,000	L	Env	
RVA	DPM		Seymouir Inlet	Wigwam Bay	MOF	RD		16	$ 64,000	L	Env	
RVA	DPM		Seymour Inlet	Seymour River	MOF	RD		15	$ 60,000	L	Env	
RVA	DPM		Thompson Sd	Lower Kakweiken	MOF	RD		3	$ 12,000	L	Env	
RVA	DPM		Thompson Sd	McAlister Cr	MOF	RD		12	$ 48,000	L	Env	
RVA	DPM		Thompson Sd	Upper Kakweiken	MOF	RD		4	$ 16,000	L	Env	
RVA	DPM		Thompson Sd	To 318	MOF	RD		10	$ 40,000	L	Env	
RVA	DPM		Thompson Sd	Thompson Sd	MOF	RD		3	$ 12,000	L	Env	
RVA	DPM		Thompson Sd	Elbow cr	MOF	RD		6	$ 240,000	L	Env	
RVA	DPM		Vancouver Is.	Nahwitti Lk	MOF	RD		6	$ 240,000	L	Env	
RVA	DPM		Vancouver Is.	Upper Nahwitti	MOF	RD		10	$ 40,000	L	Env	
			Vancouver Is.	DND Holberg	MOF	RD		2	$ 8,000	L	Infrastructure	
							0	388	$ 1,959,000			

Forest Service Road Management Program
Part 7 of the
Resource Management Plan
for the Vancouver Forest Region

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TABLE A

RESOURCE MANAGEMENT PLAN - ENGINEERING PROGRAM
VANCOUVER FOREST REGION

FOR YEAR

ACTIVITY	ACCOUNT	PRIORITY	OUTPUT UNITS	OUTPUT GOALS	ESTIMATED COSTS				TOTAL EST. $	BUDGET ALLOC.	ACTUAL COSTS	COMMENTS
					BASE $	CUMUL. BASE $	INCR. $	CUMUL. INCR. $				
Fixed Costs (region $):												
Right-of-way acquisition	40802	H	NO.						$0			
emergency repairs	40803	H	NO.	8	$320,000				$320,000			
inspection of bridges/major culverts	40804	H	NO.	420	$47,000				$47,000			
railway crossing maint.	40805	H	NO.						$0			
subtotal					$367,000		$0		$367,000			
Surface Maintenance	40805	H	KM	1348	$1,317,181				$1,317,181			
		M	KM	552			$410,141		$410,141			
(e.g., grading, brushing ditch cleanout, bridge deck cleaning and repair)		L	KM	688			$181,320		$181,320			
subtotal					$1,317,181		$591,461		$1,908,642			
Modification-Bridge and Major Culvert Replacement	40806	H	NO.	61	$5,040,000				$5,040,000			
		M	NO.	17			$2,348,000		$2,348,000			
		L	NO.	17			$1,355,000		$1,355,000			
subtotal					$5,040,000		$3,703,000		$8,743,000			
Modification-Other Works	40807	H	NO.	35	$1,140,500				$1,140,500			
		M	NO.	58			$1,481,824		$1,481,824			
(e.g., road relocation, stream culvert replacement, road stability repair)		L	NO.	31			$458,000		$458,000			
subtotal					$1,140,500		$1,939,824		$3,080,324			
Road Deactivation	40808	H	KM	118	$269,745				$269,745			
		M	KM	21			$60,900		$60,900			
		L	KM	34			$219,500		$219,500			
subtotal					$269,745		$280,400		$550,145			
TOTAL					$8,134,426		$6,514,685		$14,649,111			

Strengthening Sustainable Forest Management (SSFM)
Part 8 of the
Resource Management Plan
for the Vancouver Forest Region

Prepared by
Pacific Region Planning Team

Canadian Forest Products
International Forest Products
Timberwest Ltd
Western Forest Products
Weyerhaeuser

Forest Service British Columbia

BC Environment

October 5, 2000

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C. SSFM Issues Submissions

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8 Strengthening Sustainable Forest Management

8.1 PACIFIC REGION SSFM

This section outlines the recommended Pacific Region 2001-2002 Resource Management Plan (RMP) for Strengthening Sustainable Forest Management (SSFM), one of six Forest Renewal strategic objectives in renewing BC's forests and the forest economy. The FRBC Pacific Region covers the Lower Mainland, Vancouver Island, the Mid-Coast, and Queen Charlotte Islands.

Forest Renewal's SSFM strategic objective is specifically focused on increasing knowledge, techniques and innovations to strategically manage forests according to principles of sustainable forest management (SFM)[1].

Well-informed decisions supporting SFM at the forest level will benefit Forest Renewal Partners through:

- Greater certainty for harvest levels and other resource uses (e.g., tourism, recreation ,botanical forest products)
- Reduction of risk which often leads to less conservative and/or more timely decisions
- Greater success of strategic-level plans which affect long-term sustainability and the effectiveness of operational plans (providing a better overall framework to reference operational decisions)
- A framework for results-based resource management on the landscape
- Increased capacity to meet certification requirements for SFM

This document provides a framework for evaluating and recommending specific projects that will create the knowledge needed to address key Regional SFM issues thereby reducing risk and uncertainty related to:

- Maintenance of environmental values and
- Sustainable timber and non-timber resource benefits from the forest

The knowledge will be directly applicable to upcoming forest-level management and decisions with an initial focus on implementation of strategic land use plans, timber supply reviews and meeting the requirements of certification.

8.1.1 Resource Management Planning Process and Information Sources

This resource management plan is a collaborative submission by the Ministry of Forests, Ministry of Environment, Lands, and Parks, Canfor, Interfor, Timberwest, Western Forest Products, and Weyerhaeuser (see **Appendix A** for list of participants). The planning process involved team meetings, conference calls, and an Internet discussion forum available to constituents of planning team members so they could also monitor the process and products (see **Appendix B** for schedule of activities).

The RMP process evolved and changed in response to the diverse and interrelated nature of the SFM issues. The planning team tried several approaches to developing the RMP with each approach identifying an impasse because of the complexities of the issues. At the same time, each attempt shed new insights on the SFM issues leading to the approach in this document.

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[1] SSFM refers to the FRBC strategic objective while SFM refers to the concept of sustainable forest management.

8.1.2 Sources of information

The seven planning team members were the main conduits of information to the planning process. Each team member consulted with their staff specialists in their organizations to identify issues, knowledge strategies, and candidate projects. In addition, the planning process drew on issues identified in various Timber Supply Reviews (TSR) and needs for conducting or implementing land use plans.

8.2 KEY REGIONAL SSFM ISSUES AND STRATEGIC KNOWLEDGE FRAMEWORK

The initial call for issues yielded 189 issues (**Appendix C**). Through iterative classification of these issues into common headings and ranking, the team condensed the 189 original issues to 50 core issues (**Appendix D**). Through two rounds of ranking, the team agreed on 29 high priority issues for consideration in the RMP (**Table 1**).

Table 1. Priority Pacific Region SFM Issues (Top 29 of 50 Issue Statements)

Ref #	Issue Statement	Points
Growth and Yield		
12	Uncertainty around growth and yield of future stands affected by various silviculture systems.	28.0
8	Need to refine site productivity estimates applied to growth and yield of future stands.	27.5
7	Need to refine operational adjustment factors applied to growth and yield of future stands.	25.0
4	Need to establish and maintain installations in support of growth and yield of future stands.	15.5
Identified Species (Plants and Animals) and Ecosystems		
20	Need to refine appropriate management strategies for Marbled Murrelet.	60.3
27	Uncertainty around timber supply impacts associated with Identified Wildlife Management Strategies.	55.5
17	Need to refine appropriate management strategies for Grizzly/Black Bear.	44.0
18	Need to refine appropriate management strategies for Fish/Fish Habitat	43.0
21	Need to refine appropriate management strategies for ungulates	35.8
14	Uncertainty around management strategies and timber supply impacts associated with maintaining rare and endangered plants and ecosystems.	27.8
22	Need to refine appropriate management strategies for predatory birds.	23.0
16	Need to refine appropriate management strategies for Spotted Owl.	21.3
Landscape and Stand Biodiversity		
29	Uncertainty around strategies and timber supply impacts associated with managing for landscape-level biodiversity.	50.0
31	Uncertainty around strategies and timber supply impacts associated with managing for stand-level biodiversity.	28.5
28	Need to refine landscape-level biodiversity monitoring programs.	16.9
30	Uncertainty around strategies and timber supply impacts associated with simulating natural forest conditions.	15.5

Table 1 Continued…

Other Forest Resources		
39	Uncertainty around strategies and timber supply impacts associated with managing for water quality/quantity.	35.8
33	Need to refine methods for addressing cultural heritage resources.	26.5
34	Opportunities to mitigate timber supply impacts associated with recreational features.	24.5
35	Opportunities to mitigate timber supply impacts associated with visual inventories.	23.5
38	Uncertainty around strategies and timber supply impacts associated with managing for additional karst sites.	23.5
37	Uncertainty around strategies and timber supply impacts associated with maintaining archaeological sites.	18.5
Planning		
47	Uncertainty around strategies and timber supply impacts associated with ecosystem-based management.	46.4
46	Uncertainty around management strategies and timber supply impacts associated with various silviculture systems.	37.0
Baseline Inventories and Tools		
50	Need to establish and improve access to baseline inventories for various planning initiatives.	31.1
52	Need to refine, update and standardize ecological classification for various planning initiatives.	27.5
53	Need to refine, update and standardize terrain classification for various planning initiatives.	24.0
54	Need to refine, update and standardize vegetation classification for various planning initiatives.	22.0
55	Need to refine/develop and improve access to planning models.	16.0

The major issues in the Pacific Region are:

Growth and Yield	Improving the information inputs to growth and yield estimates to account for new and emerging silvilculture and harvesting systems as well as improving accuracy of parameters used in growth and yield projections.
Identified Species	Enhancing management strategies to conserve Identified Species and species of regional significance. These strategies require information on habitat requirements and on how species respond to alterations of habitats. In addition, information is needed on the impacts on timber supply from measures to conserve Identified Species.
Landscape and Stand Biodiversity	Creating knowledge on appropriate conservation targets, accurate ecosystem maps, effects of forestry on biodiversity, and impacts of conservation measures on timber supply to support conservation of landscape and stand biodiversity.
Other Forest Resources	Understanding how timber resource use interacts with non-timber resource uses. Understanding how non-timber resource uses interact with each other.

	The issues revolve around having accurate and up to date information reflecting current and projected non-timber uses and having the tools to develop appropriate management strategies.
Planning	Resolving uncertainty around appropriate planning, management strategies, and timber supply impacts to achieve SFM.
Baseline Inventories and Tools	Addressing strong need to complete ongoing inventory programs to collect, update, or refine baseline information on forest resources. The absence of essential baseline information hinders developing the analysis and tools to carry out or implementing land use plans.

The SFM issues are by nature interrelated and interdependent. For clarity, the planning team developed a Knowledge Strategy Framework to guide SSFM investments.

8.3 KNOWLEDGE STRATEGY FRAMEWORK

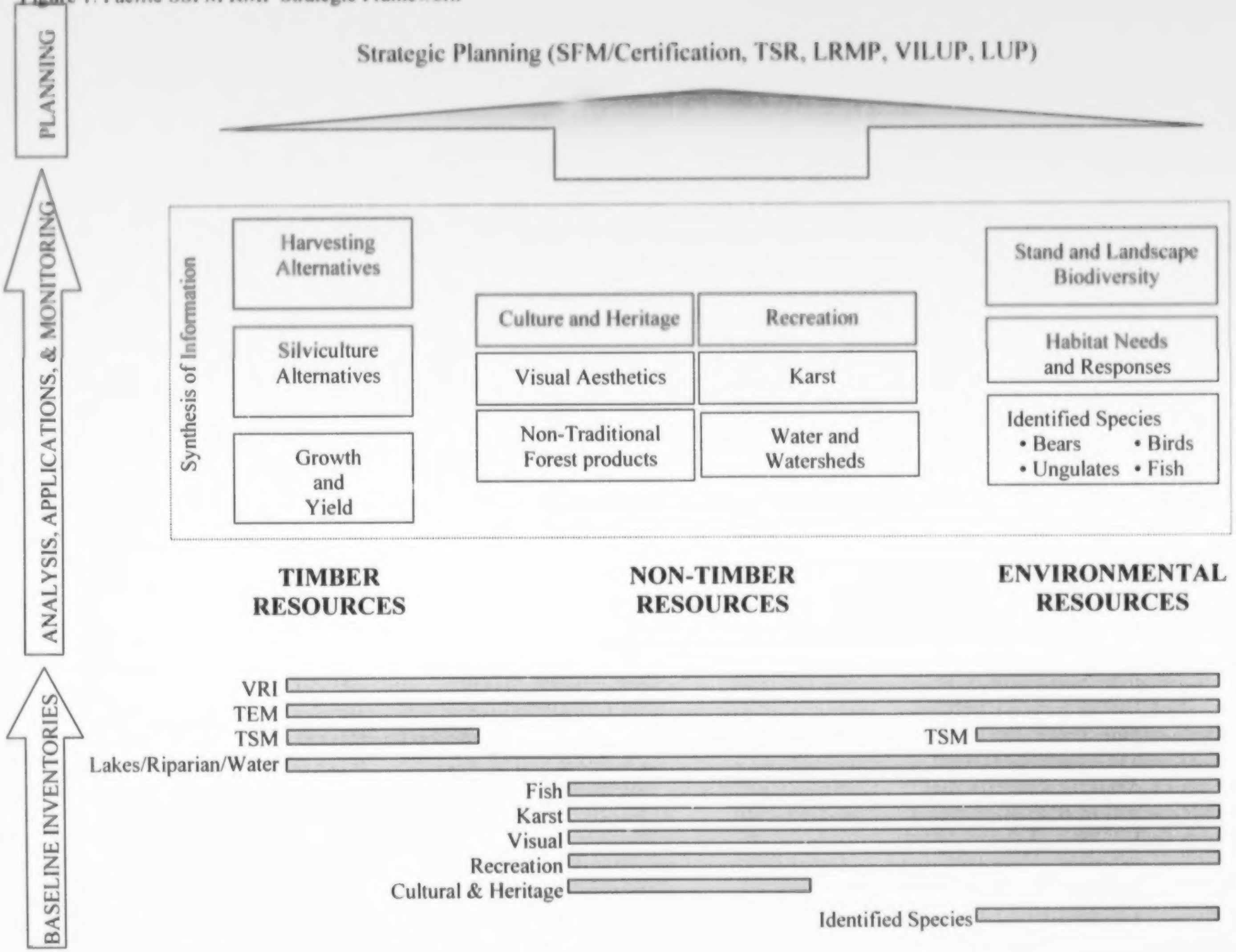
As outlined in the introduction, the goal of this RMP is to create the regional knowledge to support sustainable forest management. To achieve this goal of improving knowledge, the RMP recommends a two-part strategy. The first part focuses on finishing key baseline inventories. These baseline inventories are the basic knowledge about the forest environment and its resources. The second part of the strategy builds on these baseline inventories through analysis, synthesis of information, and building applications for use in land use and forestry planning. This second part also includes monitoring and reporting on forest environment conditions. This analysis, applications building, and monitoring all support current and future land use planning and timber supply analyses. In addition, the information base, analysis, and monitoring provide the information base and indicators to support certification of sustainable forest management practices.

The two-part strategy and the included elements form a logical framework (**Figure 1**) to achieve the SSFM objective. The framework describes the strategy to create the knowledge to deal with the high priority SFM issues.

It is important to note that the partners to this RMP are currently at different places on this framework. Some are in the stages of collecting baseline inventory information while others have substantially finished the inventory component and are working on analysis and application building. Nonetheless, the framework sets out a multi-year regional strategy to guide SSFM investments. In time, each partner will carry out the relevant parts of the framework appropriate to their individual needs, issues, and staffing resources. The actual path through the framework each partner will follow will be described in the subsequent workplans to be submitted as the next step in setting out this knowledge strategy. This RMP framework will guide FRBC investment decisions in SSFM to ensure they are consistent with the long-term goal of achieving sustainable forest management.

The RMP recognizes three categories of forest resources: timber, non-timber, and environment. These three streams are reflected in the framework. In most cases, the baseline information serves two or three of these streams. For instance, Terrestrial Ecosystem Mapping serves planning for timber, non-timber resources, and the environment. The framework as outlined in Figure 1 shows how most baseline inventories provide information and subsequent knowledge to address multiple SSFM issues.

Figure 1. Pacific SSFM RMP Strategic Framework


PLANNING
ANALYSIS, APPLICATIONS, & MONITORING
BASELINE INVENTORIES
Strategic Planning (SFM/Certification, TSR, LRMP, VILUP, LUP)
Synthesis of Information
Harvesting Alternatives
Silviculture Alternatives
Growth and Yield
Culture and Heritage
Recreation
Visual Aesthetics
Karst
Non-Traditional Forest products
Water and Watersheds
Stand and Landscape Biodiversity
Habitat Needs and Responses
Identified Species
• Bears
• Birds
• Ungulates
• Fish
TIMBER RESOURCES
NON-TIMBER RESOURCES
ENVIRONMENTAL RESOURCES
VRI
TEM
TSM
TSM
Lakes/Riparian/Water
Fish
Karst
Visual
Recreation
Cultural & Heritage
Identified Species

8.4 REGIONAL SUMMARY OF RECOMMENDATIONS

The planning team recommends that FRBC consider a portfolio of projects that address the needs described below. Following the strategic knowledge framework (Figure 1), the recommendations are presented in two parts below: *Baseline Inventories* and *Analysis, Applications, and Monitoring*.

8.4.1 Project Summary Table

The project summary table will be part of each partner's workplan submission.

8.4.2 Recommendations for Baseline Inventories

Baseline inventories of appropriate quality and resolution provide the fundamental basis for analysis, application development, monitoring, and ultimately for strategic planning. For the majority of partners, the 2001-2002 regional priority is to finish ongoing baseline inventories. For some, the priority is to use collected data in analysis and for building planning tools (applications). The priority baseline inventories is described below (Section 4.2).

8.4.2.1 Providing access to existing information

A key issue regarding baseline inventory information is to improve the organization and accessibility of information. The information is being collected by different parties and sometimes stored in different formats. As well, it is not well known what information has been collected. One of the first tasks of the RMP projects should be to develop a library of the available information and make it more widely available to partners and stakeholders.

8.4.2.2 Priority baseline inventories

The following are the priority baseline inventory needs.

TEM	Terrestrial Ecosystem Mapping provides knowledge about forest ecosystem extent and location to the site series level. It can be carried out at various intensities (degree of field truthing) appropriate to the business needs of each management unit. TEM includes terrain classification and inventories of rare and endangered ecosystems.
VRI	Vegetation Resource Inventories classify the landbase according to the vegetation (or water, rock, ice, etc.) it supports and includes rigorous field sampling to ensure statistical validity of the photo-interpreted estimates. VRI is used to support timber supply analysis and planning for non-timber and environmental resources. In parts of the region, many timber supply reviews are using inaccurate or outdated forest cover information.
TSM	Terrain Stability Mapping utilizes the expertise of professional geomorphologists to assess the stability of slopes and predict the probability of landslides or erosion should the slopes or vegetation on them be in any way disturbed. In some cases TSM is done using different terrain stability classification systems. For consistency across partners, a standardized classification system is needed particularly when the information is used for TSR or landuse planning.
Water	Water quality and quantity as well as lake and riparian classifications. For water quality, there is a need to set objectives for water quality from community watersheds. Lake and riparian classifications are an ongoing, long-term project to support forestry and recreation management as well as the CCLCRMP.
Culture & Heritage	Archaeology overviews (but not archaeological inventories)

Recreation	Much of data on recreation features, uses, and trends are outdated and do not account for current recreational uses yet the data are necessary to support land use planning processes.
Visual	Visual resources need to be inventoried to new standards to support land use planning processes.
Karst	Karst/cave resources are not well inventoried and the information is required to support land use planning processes and TSRs.
Wildlife	Wildlife is used broadly and includes both terrestrial animals, birds, and fish. Wildlife includes Identified Species as well as species of regional significance. Wildlife inventories will focus on presence/absence in various habitats to support analysis of suitable habitats for species such as spotted owl and Marbled Murrelet. Wildlife baseline information will be widely used: to define habitat requirements, to delineate high priority habitats to conserve populations, and to understand responses of animals, fish, and birds to existing and planned forest management practices.

8.4.3 Analysis, Applications Development, and Monitoring

Baseline information in itself will not serve SFM. The key step between inventory and supporting SFM in this RMP is the analysis, application building, and monitoring component of the framework. It is the analysis and interpretation of information that makes the information useful. The planning team placed a high priority on those baseline inventories that provide essential knowledge for designing appropriate management strategies that reduce risk and uncertainty in maintaining forest resources.

Analysis and applications building will use existing and new information. The first priority will be to utilize existing information where it is suitable and deemed accurate for the purposes. The second priority will be to collect new baseline information. Many of the issues are interrelated and the analysis and interpretation will draw on a cross-section of baseline information. For instance, an analysis of deer winter range will encompass analysis of habitat needs, deer responses to alterations to forest cover, and designing appropriate silviculture and harvesting methods to conserve deer populations.

Applications synthesize information from numerous inventories and provide tools for planning. For instance, Geographic Information Systems (GIS) are often used to apply and analyze the knowledge inherent in baseline inventories. For example, VRI mapping may be overlayed on TEM and TRIM mapping and then with the knowledge of species autocology (life cycle, habitat requirements, etc.) the best suitable habitats in terms of vegetation, terrain location (e.g., elevation, aspect) and ecology can often be predicted from the resultant polygons. These can later be field truthed at more detailed levels of operational planning.

Monitoring is part of this knowledge strategy to report on forest environment conditions as indicators of sustainable forest management for both certification purposes and to provide feedback to practitioners for refining forest management practices (adaptive management). For monitoring purposes, the RMP will provide for collecting information to supplement baseline inventories.

Analysis, application building and monitoring cover three categories of forest resources: timber, non-timber, and environmental resources.

8.4.3.1 Timber

Timber related analysis and application tools will serve to improve the accuracy of timber supply estimates and influence the design of silviculture and harvesting systems. Some of the issues to be addressed by the timber stream of analysis included:

- Uncertainty around growth and yield resulting from modified silviculture systems.
- Uncertainty around timber supply impacts of various silviculture systems.
- Need to refine site productivity estimates applied to growth and yield of future stands.
- Need to refine operational adjustment factors applied to growth and yield of future stands.
- Need to establish and maintain installations in support of growth and yield of future stands.
- Uncertainty around appropriate strategies for ecosystem based management and the impacts to timber supply.

The knowledge strategy recommends that work be coordinated between management units and across the region. The process may involve a small group of RMP partners that meets once or twice a year to coordinate efforts. There are opportunities for cooperation and collaboration to make efficient use of funds and to minimize duplication of effort in:

- Growth and Yield
- Silviculture strategies
- Harvesting systems

8.4.3.2 Non-timber

Analysis of non-timber resources and the development of application tools will provide the knowledge to direct the design of silviculture and harvesting methods to enhance protection of cultural, recreation, water, and non-traditional forest products. Ingenuity will be a cornerstone in creating successful ideas and techniques from analysis of baseline inventory and other information. The objective is to continue, or even enhance timber supply in constrained areas while affording additional protection to non-timber and environmental resources. Some of the issues addressed by the non-timber stream of analysis and application development include:

- Uncertainty around interactions between non-timber resource use and impacts on timber supply. There are opportunities to mitigate adverse interactions and on timber supply while enhancing benefits derived from multiple resource use.
- Uncertainties about appropriate objectives for water quality and quantity in watersheds. What are appropriate management strategies for water?
- Uncertainties around appropriate management strategies to protect cultural heritage resources.
- What are opportunities to mitigate impacts on timber supply when managing for recreation uses, visual resources, and protection of Karst features?
- Uncertainties around appropriate strategies for managing non traditional forest products

8.4.3.3 Environment

Analysis of baseline information on environmental resources will provide direction on management strategies to maintain biodiversity and to protect identified and regionally significant species. The resulting analysis and tools will support strategic planning processes. Issues addressed by the environment resources stream of analysis include:

- How can environmental values be protected while mitigating impacts on timber supply?
- Need understanding of autocology of Identified Species to define habitat requirements for Marbled Murrelet (MAMU), predatory birds, owls, bear (Grizzly, black, and Kermode), and fish. As well, we need an understanding of fish life cycles, requirements for rare and endangered ecosystem, the criteria to delineate ungulate winter range.
- Need to understand how Identified Species respond to alterations to habitat arising from forestry activities.
- Uncertainty around the implications on timber supply of strategies to maintain stand and landscape level biodiversity.
- Need to refine landscape-level biodiversity monitoring programs.
- Uncertainties around strategies and impacts on timber supply from measures to simulate natural forest conditions.

8.4.3.4 Regional strategy for Identified Species

The RMP recommends a regional strategy to coordinate efforts in addressing issues related to Identified Species. The strategy for investing in identified species should focus on the objective of conserving biodiversity with the Identified Species as indicators of biodiversity. Currently, large sums are invested to study certain species with high-, but short-term profiles. This lack of continuity does not efficiently serve the main objective of conserving natural diversity. The recommended regional strategy would consider collectively all Identified Species and outline an overall plan for addressing real needs related to indicator species. Funds and resources would be more efficiently and wisely used to produce products for planning processes.

8.4.4 Performance Indicators

In its lengthy deliberations, the planning team decided that insufficient information existed to determine performance indicators to measure the success of the RMP in achieving SFM. We considered setting milestones for indicators such as the number of mapsheets produced, or hectares inventoried. However, proxy indicators such as number of mapsheets or hectares are not direct measures of success in achieving sustainable forest management. We suggest that in further discussions with FRBC, the performance indicators for the RMP be linked to accepted performance indicators for SFM. In this way, the performance indicators for the RMP would be directly linked to indicators of sustainable forest management.

8.4.5 Guidelines for Workplan Submission

The next step in the RMP process is for the partners to develop workplans outlining specific projects. It is expected that the workplan will address the issues outlined in this RMP and be consistent with the framework. In developing the workplan, each partner should consider the fit between existing and new projects with priority given to:

A. Funding existing projects that are consistent with the RMP knowledge strategy (on-strategy)
B. Winding down or phasing out off-strategy projects at logical break-off points
C. Adding new on-strategy projects consistent with and supporting the RMP strategy

The planning team recommends that existing projects deemed to no longer be consistent with the RMP strategy outlined here should either be phased out or wound down at a logical break point. If a project is deemed to no longer serve the objective of Strengthening Sustainable Forest Management, there is no benefit in continuing expenditures other than what is required to bring the project to a logical and tidy end. In choosing a logical break-point, off-strategy projects should be concluded to balance between minimizing further spending while concluding the project so that the collected information is useable. In submitting the workplans, partners should describe how each project is consistent with the strategy of this plan.

8.4.6 Projected Budget

The workplans to date indicate a 2001-2002 budget of at least $12,885,000 (**Table 2**). Weyerhaeuser and Timberwest figures are yet to be added. The relevance of Table 2 is the relative distribution of investment between baseline inventories and analysis-application building. This demonstrates the strong need to continue with building the foundation of baseline inventories in support of SFM. In subsequent years, the distribution of budget will shift more to analysis, applications building and monitoring. The workplan and budgets are works still in progress.

Table 2. **Projected SSFM RMP Budget 2001-2002–Draft** (Does not include Weyerhaeuser and Timberwest figures)

Baseline Inventories and Tools			
Data Access	100,000	1%	Organizing and providing access to data
Lake & Riparian	500,000	4%	Lake and riparian classification
TEM	1,750,000	14%	Terrestrial Ecosystem Mapping
VRI	1,600,000	12%	Vegetation Resource Inventory
Water	600,000	5%	Management strategies for conserving water quality and quantity
Analysis, Applications and Monitoring			
Culture and Heritage	825,000	6%	Information and analysis to support conservation of culture and heritage
G&Y	225,000	2%	Information supporting Growth and Yield estimates
Monitoring	160,000	1%	Monitoring indicators of sustainability
Timber Supply	145,000	1%	Knowledge that answers questions about impacts on timber supply
Baseline Inventories and Analysis			
Biodiversity	360,000	3%	Baseline inventory and analysis to support conservation of biodiversity
Fish	1,900,000	15%	Baseline inventory and analysis to support conservation of fish and fish habitat
ID Species	3,800,000	29%	Baseline inventory and analysis to support conservation of Identified Species
Rec/Vis/Karst	920,000	7%	Baseline inventory and analysis in support of recreation, visual resources, karst values
Total to date:	**12,885,000**	100%	

8.5 PROVINCIAL PRIORITIES

Issues of a provincial significance or scale could be referred to Headquarters. These issues revolve mainly around uncertainties around appropriate forest management strategies to address climate change.

8.6 CONCLUSION

The recommended 2001-2002 Resource Management Plan is a concerted strategy to address the priority issues faced in the Pacific Region. The strategy is based on a solid foundation of baseline inventories of the existing forest resources. The analysis, application building, and monitoring elements use the inventory information in support of developing management strategies that protect non-timber and environmental resources while creating additional harvest opportunities and mitigating impacts on timber supply. Other benefits of this strategy include improved access to important data and new planning models. This strategy focuses on improving knowledge to support strategic land use planning, TSRs, and sustainable forest management/certification in the region.

Appendix A. Pacific SSFM RMP Planning Team Contact Information

Organization	Planning Team Member	Address
Ministry of Environment, Lands, and Parks	**Lynn Brunsdon** A/Coordinator, FRBC Resources Inventory	722 Johnson Street Victoria, BC V8W 3E7 Tel: 250-356-9411 Email: Lynn.Brunsdon@gems8.gov.bc.ca
Ministry of Forests	**Mike Connor** LIM Manager	2100 Labieux Road Nanaimo, BC V9T 6E9 Tel: 250-751-7128 Email: Mike.Connor@gems6.gov.bc.ca
Canadian Forest Products	**Pat Bryant, RPF** FRBC Coordinator	Englewood Logging Division Woss, BC V0N 3P0 Tel: 250-281-2419 Email: pbryant@mail.canfor.ca
International Forest Products	**Gerry Sommers, RPF** Inventory Forester	P.O. Box 49114 Four Bentall Centre 35th Floor 1055 Dunsmuir Street Vancouver, BC V7X 1H7 Tel: 604-689-6877 Email: gerry_sommers@interfor.com
Timberwest Ltd	**Jack Turley, RPF** FRBC Coordinator	330 Country Aire Drive Campbell River, BC V9W 7N1 Tel: 250-923-7943 Email: jturley@oberon.ark.com
Western Forest Products	**David Byng, RPF** Planning Forester	23rd Floor 2300 West Georgia Street Vancouver, BC V6E 4M3 Tel: 604-665-6239 Email: dbyng@westernforest.com
Weyerhaeuser Ltd	**Diane Medves, RPF** FRBC Projects Coordinator	65 Front Street Nanaimo, BC V9R 5H9 Tel: 250-755-3573 Email: diane.medves@weyerhaeuser.com
Tony B. Wong & Associates	Tony Wong, MBA, MRM, RPF Facilitator	4837 Westlawn Drive Burnaby, BC V5C 3R4 Tel: 604-839-9562 Email: tonywong@uniserve.com

Appendix B. Pacific SSFM RMP Planning Process and Schedule

Date	Activity
June 2000	RMP Initiation meeting with FRBC
July 13, 2000	Planning Team meeting to present, screen, and rank issues
July 13-Aug 7	Plan approach to managing number and diversity of issues. Initial consolidation of issues into common themes. Iterative refinement of classification.
August 8	Planning Team conference call
Aug 9 – Aug 27	Round 1 of issues priority ranking, analysis, and discussion of outcomes. Begin developing knowledge strategies.
August 28	Planning Team conference call on outcome
Aug 25- Aug 31	Setup for Round 2 of issues priority ranking and analysis to refine priority issues list. Continue developing knowledge strategies.
October 2	Planning Team Meeting. Develop RMP document around work done to date.
October 4	Submit RMP Knowledge Strategy
October 2000	Develop detailed workplans

Appendix C. Pacific Region SSFM Issue Submissions

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Appendix D. Pacific Region SSFM Issue Groupings

The planning team began with 189 issues submissions. These 189 were condensed to 50 through several iterations of classification and grouping by the team. For the results below, the team indicated their preferences by allocating 1,000 points across the issues. The two Ministries had 500 points (250 each) and licensees collectively had 500 points (100 each). Each of the seven organizations allocated its points with no more than 5% of their allocation assigned to any one issue statement and no more than 25% of points assigned to a group of issue statements (e.g., Growth and Yield). The team decided on a minimum 15 points for an issue statement to be included in the RMP.

Ref #	Issue Statement for Ranking	Points	Proportion of points	Median Score	Average Score
Ecological Processes					
1	Need to establish and assess performance of forest management strategies to address climate change.	5.0	1%	3.0	3.0
2	Uncertainty around ecological processes.	1.0			
Growth and Yield					
12	Uncertainty around growth and yield of future stands affected by various silviculture systems.	28.0	13%	10.0	12.0
8	Need to refine site productivity estimates applied to growth and yield of future stands.	27.5			
7	Need to refine operational adjustment factors applied to growth and yield of future stands.	25.0			
4	Need to establish and maintain installations in support of growth and yield of future stands.	15.5			
3	Need to develop detailed strategies to support growth and yield programs.	10.0			
13	Uncertainty around growth and yield of future stands involving complex stands.	10.0			
6	Need to refine management strategies and assess timber supply impacts associated with root rot.	6.0			
10	Uncertainty around growth and yield of future stands affected by competing vegetation.	6.0			
9	Need to refine species conversion equations applied to growth and yield of future stands.	2.0			
11	Uncertainty around growth and yield of future stands affected by tree improvement.	2.0			
5	Need to refine management strategies and assess timber supply impacts associated with dwarf mistletoe.	0.0			
Identified Species (animals and plants) and Ecosystems					
20	Need to refine appropriate management strategies for Marbled Murrelet.	60.3	32%	35.8	35.5
27	Uncertainty around timber supply impacts associated with Identified Wildlife Management Strategies.	55.5			
17	Need to refine appropriate management strategies for Grizzly/Black Bear.	44.0			

Ref #	Issue Statement for Ranking	Points	Proportion of points	Median Score	Average Score
18	Need to refine appropriate management strategies for Fish/Fish Habitat	43.0			
21	Need to refine appropriate management strategies for ungulates	35.8			
14	Uncertainty around management strategies and timber supply impacts associated with maintaining rare and endangered plants and ecosystems.	27.8			
22	Need to refine appropriate management strategies for predatory birds.	23.0			
16	Need to refine appropriate management strategies for Spotted Owl.	21.3			
15	Uncertainty around management strategies and timber supply impacts associated with potentially ecosystem-disruptive exotic species.	8.8			
Landscape and Stand Biodiversity					
29	Uncertainty around strategies and timber supply impacts associated with managing for landscape-level biodiversity.	50.0	11%	22.7	27.7
31	Uncertainty around strategies and timber supply impacts associated with managing for stand-level biodiversity.	28.5			
28	Need to refine landscape-level biodiversity monitoring programs.	16.9			
30	Uncertainty around strategies and timber supply impacts associated with simulating natural forest conditions.	15.5			
Other Forest Resources					
39	Uncertainty around strategies and timber supply impacts associated with managing for water quality/quantity.	35.8	16%	23.5	19.8
33	Need to refine methods for addressing cultural heritage resources.	26.5			
34	Opportunities to mitigate timber supply impacts associated with recreational features.	24.5			
35	Opportunities to mitigate timber supply impacts associated with visual inventories.	23.5			
38	Uncertainty around strategies and timber supply impacts associated with managing for additional karst sites.	23.5			
37	Uncertainty around strategies and timber supply impacts associated with maintaining archaeological sites.	18.5			
36	Uncertainty around methods for addressing non-traditional forest resources.	6.0			
32	Need to assess timber supply impacts associated with proposed mining developments.	0.0			

Planning					
47	Uncertainty around strategies and timber supply impacts associated with ecosystem-based management.	46.4	13%	9.5	14.8
46	Uncertainty around management strategies and timber supply impacts associated with various silviculture systems.	37.0			
48	Uncertainty around timber supply impacts associated with Landscape Unit Planning.	13.8			
43	Opportunities to mitigate timber supply impacts associated with assigning alternative minimum harvest ages.	10.0			
40	Need to refine estimates and assess timber supply impacts associated with operability limits.	9.5			
42	Need to refine strategies for accessing future timber opportunities.	8.0			
41	Need to refine non-recoverable losses applied to timber supply reviews.	5.0			
44	Uncertainty around impacts of Clayoquot Sound Forestry Practices on timber supply.	3.0			
45	Uncertainty around impacts of Innovative Forest Practices Agreements on timber supply.	1.0			
Baseline Inventories and Tools					
50	Need to establish and improve access to baseline inventories for various planning initiatives.	31.1	14%	22.0	20.1
52	Need to refine, update and standardize ecological classification for various planning initiatives.	27.5			
53	Need to refine, update and standardize terrain classification for various planning initiatives.	24.0			
54	Need to refine, update and standardize vegetation classification for various planning initiatives.	22.0			
55	Need to refine/develop and improve access to planning models.	16.0			
51	Need to establish and improve access to sample data.	14.0			
49	Need assessment of the baseline technology necessary to meet both legal and voluntary objectives.	6.0			

Forest Resources Inventories
Part 9 of the
Resource Management Plan
for the Vancouver Forest Region

Table 2: Inventory Status and Need by Business Driver

Region: Vancouver , District: Campbell River

			Business Driver: International			National			Strategic				Regional/Sub-Regional			Local							Operational Planning Regulations					
Inventory	**Type (Intensity)**	**Status**	Convention on Biological Diversity	Kyoto Protocol	Criteria + Indicators	National Forest Strategy	Canadian Biodiversity Strategy	National Forest Inventory	Land Use Charter (CORE)	Protected Areas Strategy Process	First Nations Treaty Negotiations	Identified Wildlife Management Strategy	Regional Land Use Planning	LRMP	Timber Supply Review on TSA's	Resource Management Zones	Landscape Units	Watershed Assessments	Riparian Assessments	Sensitive Areas	Recreation Features, Sites	Ungulate Winter Ranges	Forest Development Plans	Silviculture Prescriptions	Range Use Plans	Stand Management Prescriptions	Road Design Regulations	Harvesting Regulations
Archaeology	AOA	B			H	H				M	H		M	M	L	M												
	AIS				H	H																						
Forest Health	forest health assessment	B			M	H								M	L	L							H			H		
	pest incidence surveys	B			M	H									L									H		H		
Karst	reconnaisance	A								H			L			L	H				H							
	planning	A																		H								
Range	range ecosystem inventory	N/A																										
	range cultural inventory	N/A																										
Recreation	visual landscape inventory	A			H	M				H			H	H	H	H	H			H	H		H	H			L	L
	recreation opportunity	A			H	M				H	M		H	H	H	H	H			H	H							
	recreation features	A			H	M				H	M		H	H	H	H	H			H	H		H	H			L	L
Terrain (Stability) Mapping (including Soils)	Level E/D/C reconnaisance	A			L	L				H	L			H	H	H		H		H			H					
	Level C/B/A - detailed	N/D			L	L				L				H	H	H		H		H			H					
	TS Field Assessment	N/D																H						H		L		
Traditional Use	TU sites	C			M	M				M	H		H	H	L	H							H					
Vegetation Resources Inventory (VRI)	depletion update	P		L	H	L		H		H	H		M	M	H	M	M					H	H		N/A	L		
	retrofit to VRI standards	N/D		L	M	L		H							H		M											
	new photo estimation	N/D		L	L	L		H							H	M							L			L		
	ground sampling (timber)	N/D		L	L	L		H							H	M	M						L			L		
	ground sampling (full VRI)	N/D	H	L	H	H	H	H	H						H										N/A			
Growth and Yield	productivity assessment	B			M	M									H											L		
	growth model	B			M	M									H											L		
Ecoregion Mapping	ecoregion interpretations	A	H	H	H	H	H																					
Broad Ecosystem Inventory	BEI	N/D	M		M	M	M		M	M	L	H		L	L		L											
Predictive Ecosystem Mapping*	PEM - Level 1 (overview)	N/D	H		H	H	H		H	H			H	H	H		H											
	PEM - Level 2 (detailed)	N/D	L		L	L	L			L			L	L	L		L					L						
Terrestrial Ecosystem Mapping*	TEM - Level R (overview)	N/D	L						L				L	L			L											
	TEM - Level 5 (reconnaissance)	N/D	L																									
	TEM - Level 4 (intensive)	N/D	L									L										L						
Rare Ecosystem Inventory	REI	N/D																										
BCF: Fish and Fish Habitat	summary (FISS)	C	H		H	M	H		H	H	H	H		H	H		H		H	H			H					
	overview (1:50,000)	C	H		H	M	M			H	H	H		H			H											
	reconnaisance (1:20,000)	N/D	L		L		L					H			H		L	H	H	H			H		H	M	H	H
	Intensive (1:5,000)	N/D					L					M						H	H	H				H			H	H
	species / population inv	N/D	L		M	M	L			H		H	H	H			L			H								
	lake classification	N/D					L							H			L	H	H				H	H				
Water Quality/Quantity	water quantity inventory	N/D	M		H	M	M		M				H	H		H	M										H	H
	water use inventory (comm w/s)	B											H	H	M	H	H	H					H	H			H	H
	water quality inventory	N/D			H	H							H	H	M	H	M	M							H			
Wildlife and Wildlife Habitat	BEI interpretations	N/D	H		M	M	H		H	H	M	H		H	H	H	H											
	TEM/PEM interpretations	N/D	M		L	H	H			H		H		H		H	M			H		L						
	species presence	C	H		H	H	H		H	H		H	H	H	H	H						H						
	species relative abundance	C	H		H	H	H					H	H									H						
	species absolute abundance	C	H		H	H	H																					
	rare & endangered species	C	H		H	H	H	H	H	H	H	H	H	H	H	H	H		H	H		H	H	H	H	H		

*Terrestrial Ecosystem Mapping has an alternative, Predictive with a lower level of intensity of Ecosystem Mapping (PEM) ground truthing. All have RIC standards

DRAFT May 15, 2000

Legend:

A = Good status
B = Satisfactory status
C = Poor Status
n/d = not done
n/a = not applicable

H = Inventory is of high improtance to the Business Driver
M = Inventory is of moderate importance to the Business Driver
L = Inventory is of low importance to the Business Driver

Explicitly required by legislation / regulation
Implicitly required by legislation / regulation (interpretation involved)
Needed to set management objectives or for resource management
All or portion of inventory required for planning process
Information not currently required

Table 2: Inventory Status and Need by Business Driver

Region: Vancouver , District: Chilliwack/Squamish

			Business Driver																									
			International			National			Strategic				Regional/Sub-Regional			Local							Operational Planning Regulations					
Inventory	**Type (Intensity)**	**Status**	Convention on Biological Diversity	Kyoto Protocol	Criteria + Indicators	National Forest Strategy	Canadian Biodiversity Strategy	National Forest Inventory	Land Use Charter (CORE)	Protected Areas Strategy Process	First Nations Treaty Negotiations	Identified Wildlife Management Strategy	Regional Land Use Planning	LRMP	Timber Supply Review on TSA's	Resource Management Zones	Landscape Units	Watershed Assessments	Riparian Assessments	Sensitive Areas	Recreation Features, Sites	Ungulate Winter Ranges	Forest Development Plans	Silviculture Prescriptions	Range Use Plans	Stand Management Prescriptions	Road Design Regulations	Harvesting Regulations
Archaeology	AOA	B								L	H		M	L	H	L												
	AIS																											
Forest Health	forest health assessment	C												L	M	L							M			M		
	pest incidence surveys	C													M									H		H		
Karst	reconnaisance	n/d								L			M			L	L				H							
	planning	n/d																		L								
Range	range ecosystem inventory	n/a																										
	range cultural inventory	n/a																										
Recreation	visual landscape inventory	B								L			M	L	H	H	H			H	L		H	H			H	H
	recreation opportunity	B								L	H		M	L	L	L	L			L	M							
	recreation features	B								L	H		M	L	L	L	L			L	M		H	H			H	H
Terrain (Stability) Mapping (including Soils)	Level E/D/C reconnaisance	C								L	L			L	H	M		M		L			L					
	Level C/B/A - detailed	n/d								L				L	L	L		L		L			M					
	TS Field Assessment	B																M						H		H		
Traditional Use	TU sites	C								L	H		M	L	H	L							H					
Vegetation Resources Inventory (VRI)	depletion update	C								L	H		M	L	H	M	H					M	H			H		
	retrofit to VRI standards	n/a																										
	new photo estimation	C													H	M							H			H		
	ground sampling (timber)	C													H	M	H						H			H		
	ground sampling (full VRI)	n/d																										
Growth and Yield	productivity assessment	B													H											H		
	growth model	B													H											H		
Ecoregion Mapping	ecoregion interpretations	B																										
Broad Ecosystem Inventory	BEI	n/d																										
Predictive Ecosystem Mapping*	PEM - Level 1 (overview)	n/d																										
	PEM - Level 2 (detailed)	n/d																										
Terrestrial Ecosystem Mapping*	TEM - Level R (overview)	C							L				M	L			H											
	TEM - Level 5 (reconnaissance)	C																										
	TEM - Level 4 (intensive)	n/d																										
Rare Ecosystem Inventory	REI	n/d																										
BCF: Fish and Fish Habitat	summary (FISS)																											
	overview (1:50,000)																											
	reconnaisance (1:20,000)																											
	Intensive (1:5,000)																											
	species / population inv																											
	lake classification																											
Water Quality/Quantity	water quantity inventory																											
	water use inventory (comm.w/s)																											
	water quality inventory																											
Wildlife and Wildlife Habitat	BEI interpretations																											
	TEM/PEM interpretations																											
	species presence																											
	species relative abundance																											
	species absolute abundance																											
	rare & endangered species																											

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Implicitly required by legislation / regulation (interpretation involved)
Needed to set management objectives or for resource management
All or portion of inventory required for planning process
Information not currently required

Table 2: Inventory Status and Need by Business Driver

Region: Vancouver , District: Mid Coast

Inventory	Type (Intensity)	Status	Business Driver																									
			International			National			Strategic				Regional/Sub-Regional			Local							Operational Planning Regulations					
			Convention on Biological Diversity	Kyoto Protocol	Criteria + Indicators	National Forest Strategy	Canadian Biodiversity Strategy	National Forest Inventory	Land Use Charter (CORE)	Protected Areas Strategy Process	First Nations Treaty Negotiations	Identified Wildlife Management Strategy	Regional Land Use Planning	LRMP	Timber Supply Review on TSA's	Resource Management Zones	Landscape Units	Watershed Assessments	Riparian Assessments	Sensitive Areas	Recreation Features, Sites	Ungulate Winter Ranges	Forest Development Plans	Silviculture Prescriptions	Range Use Plans	Stand Management Prescriptions	Road Design Regulations	Harvesting Regulations
Archaeology	AOA	B			M	M				H	H			H	H	H	M				M		H	M				
	AIS	B			M	M									M	M	M				H		H	H	H	H		
Forest Health	forest health assessment	C			H	H								M	H	H	H				M	M	H	H	H	H		
	pest incidence surveys	C			M	M									H									H	M	H		
Karst	reconnaisance	B								L						L	L				L							
	planning	n/d																		L								
Range	range ecosystem inventory	n/d			M	M								M	M		M						M					
	range cultural inventory	n/d																										
Recreation	visual landscape inventory	A			H	H				H				H	H	H	H			H	H		H	H			H	H
	recreation opportunity	B			M	M				M	M			H	M	M	M			M	M							
	recreation features	B			L	L				L	L			M	M	L	L			L	L		L	L			L	L
Terrain (Stability) Mapping (including Soils)	Level E/D/C reconnaisance	n/d			H	H				H	H			H	H	H			M	H	L		H					
	Level C/B/A - detailed	n/a			H	H				H				H	H	H			M	H	L		H					
	TS Field Assessment	n/d																						M		M		
Traditional Use	TU sites	C			M	M				M	M			H	H	H							H	M		M		
Vegetation Resources Inventory (VRI)	depletion update	B		H	H	H		H		H	H			H	H	H	H					H	H		H	H		
	retrofit to VRI standards	n/d		L	L	L		L							L		L											
	new photo estimation	n/d		L	L	L		L							L	L							L			L		
	ground sampling (timber)	n/d		M	M	M		M							L	M	M						M			M		
	ground sampling (full VRI)	n/d	M	M	M	M	M	M							L										M			
Growth and Yield	productivity assessment	C			M	M									H		M									M		
	growth model	C			M	M									H		M									M		
Ecoregion Mapping	ecoregion interpretations	B	M	M	M	M	M																					
Broad Ecosystem Inventory	BEI	C	M		M	M	M			M	M	M		M	M		M											
Predictive Ecosystem Mapping*	PEM - Level 1 (overview)	n/a	M		M	M	M			M				M	M		M											
	PEM - Level 2 (detailed)	n/a	H		H	H	H			H				H	H		H					H						
Terrestrial Ecosystem Mapping*	TEM - Level R (overview)	A	M											M	L	L	M											
	TEM - Level 5 (reconnaissance)	n/d	L																									
	TEM - Level 4 (intensive)	n/a	L																									
Rare Ecosystem Inventory	REI	n/d																										
BCF: Fish and Fish Habitat	summary (FISS)	A	H		H	H	H			H	H	H		H			H		H	H			H					
	overview (1:50,000)	B	M		M	M	M			M	M	M		M			M						M					
	reconnaisance (1:20,000)	C	H		H		H					H			H		H	H	H	H			H		H	H	H	H
	Intensive (1:5,000)	n/d					L					L						L	L	L				L			L	L
	species / population inv	C	L		L	L	L			L		L		L			L			L								
	lake classification	C					M							H			M	M	M				M	M				
Water Quality/Quantity	water quantity inventory	n/d	L		L	L	L							L		L	L										L	L
	water use inventory (comm.w/s)	n/d												M	M	M	M	M					M	M			M	M
	water quality inventory	n/d			H	H								H	H	H	H	H							H			
Wildlife and Wildlife Habitat	BEI interpretations	n/d	L		L	L	L			L	L	L		L	L	L	L											
	TEM/PEM interpretations	n/d	M		M	M	M			M		M		M		M	M			M		M						
	species presence	A	H		H	H	H			H		H		H	H	H						H						
	species relative abundance	A	M		M	M	M					M										M						
	species absolute abundance	A	L		L	L	L																					
	rare & endangered species	A	L		L	L	L	L		L	L	L		H	L	L	L		L	L		L	L	L	L	L		

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DRAFT May 15, 2000

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Implicitly required by legislation / regulation (interpretation involved)
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All or portion of inventory required for planning process
Information not currently required

Table 2: Inventory Status and Need by Business Driver

Region: Vancouver, District: Port McNeill

Inventory	Type (Intensity)	Status	International			National			Strategic				Regional/Sub-Regional			Local							Operational Planning Regulations					
			Convention on Biological Diversity	Kyoto Protocol	Criteria + Indicators	National Forest Strategy	Canadian Biodiversity Strategy	National Forest Inventory	Land Use Charter (CORE)	Protected Areas Strategy Process	First Nations Treaty Negotiations	Identified Wildlife Management Strategy	Regional Land Use Planning	LRMP	Timber Supply Review on TSA's	Resource Management Zones	Landscape Units	Watershed Assessments	Riparian Assessments	Sensitive Areas	Recreation Features. Sites	Ungulate Winter Ranges	Forest Development Plans	Silviculture Prescritpions	Range Use Plans	Stand Management Prescriptions	Road Design Regulations	Harvesting Regulations
Archaeology	AOA	A/B								M	H		n/a	M	L	L	L						H					
	AIS	A																			H			H			H	
Forest Health	forest health assessment	B												L	M	L							M			M		
	pest incidence surveys	A													L									H		H		
Karst	reconnaisance	A								L			n/a	L		L	L				M		L					
	planning	C															M			M	H		H	H				
Range	range ecosystem inventory	n/a											n/a	n/a	n/a		n/a						n/a					
	range cultural inventory	n/a									n/a												n/a					
Recreation	visual landscape inventory	A								H			n/a	H	H	H	H			M	H		H	H			M	L
	recreation opportunity	B								M	L		n/a	M	L	L	L			L	M		L					
	recreation features	C								H	H		n/a	H	H	H	M			M	H		M	H			L	L
Terrain (Stability) Mapping (including Soils)	Level E/D/C reconnaisance	n/d								L	L			M	H	M	H	H		L			M				M	
	Level C/B/A - detailed	C								L				L	H	M	H	H		L			H				H	
	TS Field Assessment	A																L						H		M	H	
Traditional Use	TU sites	A/B								M	H		n/a	M	L	L							H					
Vegetation Resources Inventory (VRI)	depletion update	C								H	H	H	n/a	M	H	L	H					H	H		n/a	H		
	retrofit to VRI standards	n/a													n/a		n/a											
	new photo estimation	A (ongoing)												L	H	L	H					M	H			H		
	ground sampling (timber)	n/d												L	H	L	H						H			H		
	ground sampling (full VRI)	n/d							n/a					L	M	L	H					M			n/a			
Growth and Yield	productivity assessment	n/d													H											H		
	growth model	n/d													H											H		
Ecoregion Mapping	ecoregion interpretations	B								H																		
Broad Ecosystem Inventory	BEI	B							n/a	M	M	M		H	L		L											
Predictive Ecosystem Mapping*	PEM - Level 1 (overview)	n/d							n/a	M			n/a	M	L		M											
	PEM - Level 2 (detailed)	n/d								L			n/a	L	L		H					H						
Terrestrial Ecosystem Mapping*	TEM - Level R (overview)	n/d							n/a			L	n/a	M			M						L	L		L		
	TEM - Level 5 (reconnaissance)	n/d										M		M	L		M						M	M		M		
	TEM - Level 4 (intensive)	n/d										H			M		H					H	M	H		H		
Rare Ecosystem Inventory	REI	n/d										H					H							H				
BCF: Fish and Fish Habitat	summary (FISS)	C							n/a	M	M	L		H	L	M	L						L					
	overview (1:50,000)	n/d								M	M	L		H		M	M											
	reconnaisance (1:20,000)	n/d										L		M	H	M	H						H		n/a	M	H	H
	Intensive (1:5,000)	A										M												H			H	H
	species / population inv	n/d								L		M	n/a	L			L											
	lake classification	n/d								L				M	M	L	M						M	H				
Water Quality/Quantity	water quantity inventory																											
	water use inventory (comm.w/s)																											
	water quality inventory																											
Wildlife and Wildlife Habitat	BEI interpretations																											
	TEM/PEM interpretations																											
	species presence																											
	species relative abundance																											
	species absolute abundance																											
	rare & endangered species																											

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Explicitly required by legislation / regulation
Implicitly required by legislation / regulation (interpretation involved)
Needed to set management objectives or for resource management
All or portion of inventory required for planning process
Information not currently required

Submitted by PMFD August 10, 2000

Table 2: Inventory Status and Need by Business Driver

Region: _VANCOUVER_ , District: SOUTH ISLAND_

			Business Driver																									
			International			National			Strategic				Regional/Sub-Regional			Local							Operational Planning Regulations					
Inventory	**Type (Intensity)**	**Status**	Convention on Biological Diversity	Kyoto Protocol	Criteria + Indicators	National Forest Strategy	Canadian Biodiversity Strategy	National Forest Inventory	Land Use Charter (CORE)	Protected Areas Strategy Process	First Nations Treaty Negotiations	Identified Wildlife Management Strategy	Regional Land Use Planning	LRMP	Timber Supply Review on TSA's	Resource Management Zones	Landscape Units	Watershed Assessments	Riparian Assessments	Sensitive Areas	Recreation Features, Sites	Ungulate Winter Ranges	Forest Development Plans	Silviculture Prescritpions	Range Use Plans	Stand Management Prescriptions	Road Design Regulations	Harvesting Regulations
Archaeology	AOA	C			H	H				H	H		H	H	H	H												
	AIS	C			L	L																						
Forest Health	forest health assessment	N/D			H	H								M	L	M							H			M		
	pest incidence surveys	C			L	L									H									H		H		
Karst	reconnaisance	A								H			H			H	H				H							
	planning	N/D																		H								
Range	range ecosystem inventory	N/A																										
	range cultural inventory	N/A																										
Recreation	visual landscape inventory	C			H	H				H			H	H	H	H	H			H	H		H	H			H	H
	recreation opportunity	B			H	H				H	M		H	H	L	H	H			L	H							
	recreation features	C			H	H				H	M		H	H	H	H	H			H	H		H	H			H	H
Terrain (Stability) Mapping (including Soils)	Level E/D/C reconnaisance	C			H	H				H	M			M	M	M		M		L			M					
	Level C/B/A - detailed	N/D			L	M				M				L	H	L		H		H			H					
	TS Field Assessment	C																H						H		H		
Traditional Use	TU sites	C			H	H				H	H		H	H	H	H							H					
Vegetation Resources Inventory (VRI)	depletion update	N/D		H	H	H		H		M	H		M	M	H	H	H					H	H			H		
	retrofit to VRI standards	N/D		M	M	M		M							H		M											
	new photo estimation	C		M	M	M		H							H	L							M			M		
	ground sampling (timber)	C		M	M	M		M							H	H	H						H			H		
	ground sampling (full VRI)	C	H	M	H	H	H	H	H						L													
Growth and Yield	productivity assessment	C			H	H									H											H		
	growth model	C			H	H									H											L		
Ecoregion Mapping	ecoregion interpretations	A	H	H	M	H	H																					
Broad Ecosystem Inventory	BEI	A	H		M	H	H		L	H	M	M		H	H		M											
Predictive Ecosystem Mapping*	PEM - Level 1 (overview)	N/D	H		L	M	M		L	H			H	L	L		L											
	PEM - Level 2 (detailed)	N/D	L		H	H	H			M			L	H	L		L					M						
Terrestrial Ecosystem Mapping*	TEM - Level R (overview)	N/D	H						H				M	L			H											
	TEM - Level 5 (reconnaissance)	C	L																									
	TEM - Level 4 (intensive)	N/D	H									H										H						
Rare Ecosystem Inventory	REI	C																										
BCF: Fish and Fish Habitat	summary (FISS)	C	H		H	H	M		H	H	H	M		H	H		M		M	H			M					
	overview (1:50,000)	N/D	H		H	H	M			H	H	M		H			M											
	reconnaisance (1:20,000)	C	M		M		H					H			H		H	H	H	H			H			H	M	H
	Intensive (1:5,000)	C					M					H						M	H	L				H			H	H
	species / population inv	?	M		M	M	H			H		H	H	L			M			L								
	lake classification	?					H							L			M	M	H				M	H				
Water Quality/Quantity	water quantity inventory	?	H		H	H	H		H				H	H		L	H										H	H
	water use inventory (comm.w/s)	A											L	H	H	H	H	H					H	H			M	H
	water quality inventory	?			H	H							H	H	H	L	H	M										
Wildlife and Wildlife Habitat	BEI interpretations	?	H		H	H	H		H	M	H	M		H	H	H	M											
	TEM/PEM interpretations	?	H		H	H	H			H		H		H		M	H			H		H						
	species presence	C	M		M	M	M		M	M		M	M	M	H	L						M						
	species relative abundance	?	H		H	H	H					H	H									H						
	species absolute abundance	?	M		M	M	M																					
	rare & endangered species	C	H		H	H	H	H	H	H	H	H	H	H	H	M	H		H	H		H	H	H		H		

*Terrestrial Ecosystem Mapping has an alternative, Predictive with a lower level of intensity of Ecosystem Mapping (PEM) ground truthing. All have RIC standards

DRAFT May 15, 2000

Legend:

A = Good status
B = Satisfactory status
C = Poor Status
n/d = not done
n/a = not applicable
?=See MELP submission

H = Inventory is of high improtance to the Business Driver
M = Inventory is of moderate importance to the Business Driver
L = Inventory is of low importance to the Business Driver

	Explicitly required by legislation / regulation
	Implicitly required by legislation / regulation (interpretation involved)
	Needed to set management objectives or for resource management
	All or portion of inventory required for planning process
	Information not currently required

Table 2: Inventory Status and Need by Business Driver

Region: Vancouver , District: Sunshine Coast

Inventory	Type (Intensity)	Status	Business Driver																									
			International			National			Strategic				Regional/Sub-Regional			Local							Operational Planning Regulations					
			Convention on Biological Diversity	Kyoto Protocol	Criteria + Indicators	National Forest Strategy	Canadian Biodiversity Strategy	National Forest Inventory	Land Use Charter (CORE)	Protected Areas Strategy Process	First Nations Treaty Negotiations	Identified Wildlife Management Strategy	Regional Land Use Planning	LRMP	Timber Supply Review on TSA's	Resource Management Zones	Landscape Units	Watershed Assessments	Riparian Assessments	Sensitive Areas	Recreation Features, Sites	Ungulate Winter Ranges	Forest Development Plans	Silviculture Prescritpions	Range Use Plans	Stand Management Prescriptions	Road Design Regulations	Harvesting Regulations
Archaeology	AOA	C								M	M		L	L	L	L												
	AIS																											
Forest Health	forest health assessment	C												L	H	L												
	pest incidence surveys	C													H													
Karst	reconnaisance	n/d								L			L			L	L				H							
	planning	n/d																		H								
Range	range ecosystem inventory	n/a											L	L	L		L						L					
	range cultural inventory	n/a									L												L					
Recreation	visual landscape inventory	A								L			H	H	H	H	H			H	H		H	H			H	H
	recreation opportunity	A								L	M		H	H	H	H	H			H	H							
	recreation features	C								L	M		H	H	H	H	H			H	H		H	H			H	H
Terrain (Stability) Mapping (including Soils)	Level E/D/C reconnaisance	C								L	L			M	H	M		H		H			H					
	Level C/B/A - detailed	C								L				M	H	M		H		H			H					
	TS Field Assessment	C																H						H		H		
Traditional Use	TU sites	C								L	H		M	M	M	H							H					
Vegetation Resources Inventory (VRI)	depletion update	A								L	M		M	M	H	M	H											
	retrofit to VRI standards	n/d													H		M											
	new photo estimation	n/d													H	M												
	ground sampling (timber)	n/d													H	M	M											
	ground sampling (full VRI)	n/d							M						H													
Growth and Yield	productivity assessment														H											H		
	growth model														H											H		
Ecoregion Mapping	ecoregion interpretations																											
Broad Ecosystem Inventory	BEI								M	H	L	H		M	H		H											
Predictive Ecosystem Mapping*	PEM - Level 1 (overview)								M	H			M	M	H		H											
	PEM - Level 2 (detailed)									H			M	M	H		H					H						
Terrestrial Ecosystem Mapping*	TEM - Level R (overview)								M				M	M			H											
	TEM - Level 5 (reconnaissance)																											
	TEM - Level 4 (intensive)											H										H						
Rare Ecosystem Inventory	REI																											
BCF: Fish and Fish Habitat	summary (FISS)								H	L	M	H		M	M		M		H	H			H					
	overview (1:50,000)									L	M	H		M			M											
	reconnaisance (1:20,000)											H			M		M	H	H	H			H		L	H	H	H
	Intensive (1:5,000)											H						H	H	H				H			H	H
	species / population inv									L		H	M	M			M			H								
	lake classification													M			M	H	H				H	H				
Water Quality/Quantity	water quantity inventory								H				H	H		H	M										H	H
	water use inventory (comm.w/s)												H	M	H	H	H	H					H	H			H	H
	water quality inventory												H	M	L	H	M	H							L			
Wildlife and Wildlife Habitat	BEI interpretations								H	L	M	H		M	H	H	H											
	TEM/PEM interpretations									L		H		M		H	H			H		H						
	species presence								H	L		H	H	M	H	H						H						
	species relative abundance											H	H									H						
	species absolute abundance																											
	rare & endangered species								H	L	M	H	H	M	H	H	H		H	H		M	H	H	L	H		

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DRAFT May 15, 2000

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Implicitly required by legislation / regulation (interpretation involved)
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All or portion of inventory required for planning process
Information not currently required

Recreation Site & Trail Maintenance
Part 10 of the
Resource Management Plan
for the Vancouver Forest Region

Ministry of Forests
Resource Management Plan
Recreation Component

April 1, 2001 to March 31, 2005

compiled by
Forest Practices Branch
Forest Development Section
October 2000

Ministry of Forests Resource Management Plan – Recreation Component

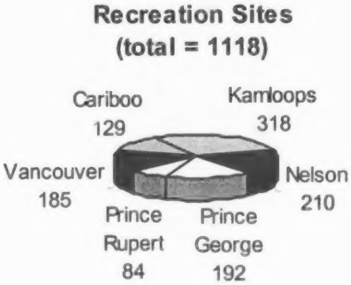
Introduction

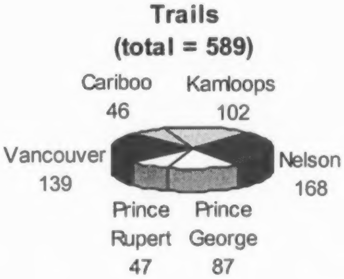
The Ministry of Forests (ministry) manages recreation resources and public use on Crown forest lands. Managing the recreation resource involves:

- maintaining an inventory of recreation features and recreation settings;
- planning for recreation; and
- incorporating recreation information into referrals for operations proposed on Crown forest lands.

To enable the public to enjoy Crown forest lands for recreation, the ministry manages,

- 1,118 recreation sites; and
- 589 recreation trails.





Background

In 1998, no base funds were available for maintaining recreation sites and trails. The lack of site and trail maintenance resulted in an escalation of public and media complaints during the summer. In response to this situation, the ministry allocated $1.0 million to keep the recreation sites open, nothing more.

In 1999, recreation fees at sites and some trails were introduced to partly recover the cost of maintaining these facilities. (See **Appendix 1** for a description of the recreation fees). The ministry was able to provide basic maintenance at most of the recreation sites, at a cost of $2,358,000 with funding coming from three sources:

1) Revenue from the recreation fees ($392,000 camping pass and $166,000 camping permit);
2) $1.0 million ministry base funds; and
3) approximately $800,000 of risk managed base funds from other programs.

In addition $200,000 was allocated to regions for compliance and enforcement patrols, some of which was used to patrol recreation sites.

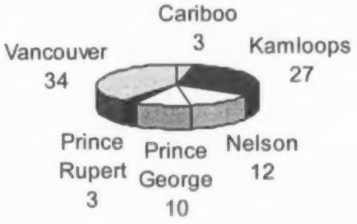
In 2000, more than 300 recreation sites were either closed or transferred to BC Parks, reducing the total number of sites managed by the ministry to 1118. The Ministry was able to provide basic maintenance at most of the recreation sites at a cost of $2,725,000 with funding coming from the following sources:

1) revenue from the recreation fees ($750,000 camping pass and $175,000 camping permits);
2) $1.0 million ministry funds; and
3) approximately $800,000 risk managed funds from other programs.

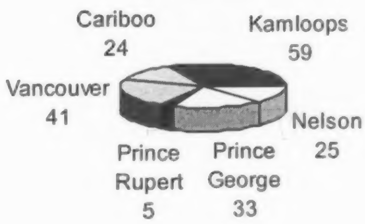
In addition $140,000 of base funds was allocated to regions for recreation site patrols.

Issues and Implications

To date, revenue from recreation fees and funding from government have not been sufficient to manage the recreation sites to ministry standards. The lack of funding has prohibited the ministry from maintaining the infrastructure at recreation sites, estimated to be worth over $13 million. As a result there is a backlog of structure repair and replacement dating back to 1998 when funding was first cut. As an example some sites have deteriorated to the point where essential structures such as entrance signs and toilets are no longer in place.



Number Of Recreation Sites Without A Toilet (total = 89)



Number Of Recreation Sites Without An Entrance Sign (total = 187)

Compounding the problem of deteriorating conditions at recreation sites is a higher public expectation of service and structures at these facilities due to the fact that fees are being charged.

No funding has been dedicated to trails since 1997. The trails and the infrastructure on them are deteriorating and public safety, environmental and liability risks are escalating. The ministry will have to review the option of closing trails do to lack of funding next year.

No resources have been available to carry out recreation resource management activities except at a very cursory level.

At the time the recreation fees were introduced it was estimated that the revenue from camping pass sales would eventually cover approximately 40 to 50% of the costs of managing the recreation sites. In 1999 revenue from the camping pass sales was approximately $450,000 and is forecasted to increase to approximately $550,000 in 2000. It appears that the initial target of 40 to 50% cost recovery from camping pass sales will be very difficult to achieve. Consequently the need for more government commitment to the program is required if the existing number of recreation sites and trails are to be maintained.

2001-02 Priority Ranking and Funding Needs for Recreation Activities

Given the lack of funding, newly introduced user fees, higher public expectations, on-going deterioration of the infrastructure and escalating public safety, environmental and liability risks, it is critical that the RMP build the business case for public recreation opportunities managed by the ministry. In this regard, the priority ranking and funding needs for recreation activities are as follows:

For Recreation Sites and Trails

1. **Critical Priority**

   Basic Site Maintenance
   $2,537,000 is required to for site maintenance activities that if not carried out next year will lead to:
   - significant public safety risks;
   - environmental damage;
   - increasing liability risks and possible court action; or
   - widespread adverse publicity.

   Basic Trail Maintenance
   $841,000 is required for trail maintenance activities that if not carried out next year will lead to:
   - significant public safety risks;
   - environmental damage;
   - increasing liability risks and possible court action; or
   - widespread adverse publicity.

   Recreation Fee Administration
   $95,000 is required for recreation fee administration to ensure that revenue is collected to partly off-set the cost of managing the campgrounds and trails. (See **Appendix 2** for a breakdown of the administrative costs)

   A total of **$3,473,000** is required for critical priority fee administration and site and trail maintenance.

2. **High Priority**

Recreation Site Patrols

$433,000 is required for essential recreation site patrol activities that if not carried out year will lead to:

- significant public safety risks;
- vandalism and loss of structures at campgrounds;
- reduced compliance and less revenue from camping fees; or
- widespread adverse publicity.

Backlog Structure Repair and Replacement (Sites)

$1,105,000 is required for essential "catch-up" repair and replacement of structures that have not occurred at the recreation sites since 1997 due to funding cutbacks.

Annual Structure Repair and Replacement (Sites)

$1,367,000 is required for essential repair and replacement of structures that must be carried out in order to protect and maintain the ministry 's $13 million investment at the ministry's recreation sites. Note information on trail infrastructure is not available at this time.

A total of **$2,905,000** is required to carry out high priority site patrols, backlog replacement of structures and annual replacement of structures.

3. **Moderate Priority**

Site and Trail Rehabilitation

Activities required for monitoring and evaluating the condition of the ministry's recreation sites and trails, planning and carrying out rehabilitation at sites and trails. (**Note:** figures have not been provided for this activity at this time.)

4. **Low Priority**

Development

Improvements that will enhance forest recreation opportunities for the public. (**Note**: figures have not been provided for this activity at this time.)

See **Appendix** 3 for provincial and regional information on site and trail management activities.

For Recreation and Visual Landscape Management

The following recreation and visual landscape management needs represent input from half of the districts (22 of 40 reported). Future Resource Management Plans will include more comprehensive information on recreation and visual landscape resource management needs. (Note: recreation and visual landscape inventory activities are included under the Forest Inventory component of the Resource Management Plan).

1. **High Priority**

$271,000 is required to complete essential recreation and visual landscape resource analysis and planning that if not carried out will lead to:

- significant conflicts with other forest resources and recreation activities;
- loss of recreation and visual resource values; or
- widespread adverse publicity.

2. **Moderate Priority**
   $259,500 is required to complete recreation and visual landscape research, operational trails and studies that if not carried out will lead to:
   - continued conflicts with other forest resources and recreation activities; or
   - loss of recreation and visual resource values

3. **Low Priority**
   $5,000 is required to monitor recreation and visual landscape resources to enhance these resources.

See **Appendix 4** for region information on recreation and visual landscape resource management needs.

For further information on the ministry's recreation program or to answer questions concerning the information in this document, please contact Bill Marshall (387-8382) or Ward Trotter at (356-5887), Forest Practices Branch.

APPENDIX 1: Summary of Ministry of Forest Recreation Fees

Type Of Fee	Where Fees Apply	Fee Rate	Sold By	What Money is Used For
Camping Pass	- all campgrounds	- $27.00 (annual) - $22.00 (seniors rate) - $8.00 (per night)	- government agents, sub-issuers, FS offices	- money used to keep campgrounds open
Enhanced Campground Fee	- high-use campgrounds	- $10.00 (per night) - Annual pass holder discount of 50% ($5.00/night)	- Contractor	- money retained by contractor to pay for enhanced services
Enhanced Trail Fees (for enhanced services, e.g., track-setting, cabins)	- about 30 trails	- locally determined	- club (non-profit group)	- money retained by club to pay for enhanced services
Other Fees a) brochures b) firewood	a) all districts b) some campgrounds	a) between $2.00 to $4.00 (to be determined) b) price range from $2.00 to $5.00 per bundle (locally determined)	a) government agents & sub-issuers b) contractor or club	a) money to pay for printing and distribution of brochures b) money to contractor/club to pay for provision of firewood

APPENDIX 2: Administrative Costs for Ministry of Forest Recreation Fees

Item	# Printed in first run	Total cost for 2000 $
Product Design	na	5,000
Annual Camping Pass	60,000	15,000
Single-Night Camping Pass	20,000	3,000
Enhanced Campground Permit	100,000	5,000
Fees brochures	100,000	7,500
Rules brochures	100,000	7,500
Fees posters	5,000	5,000
Rules posters	5,000	5,000
Enhanced Fees Posters	0	0
Campground directory	-	2,000
Advertisements	na	40,000
Disabled Stickers	0	0
Camping Pass Stickers	0	0
TOTAL		$ 95,000

on Site and Trail Management Activities for the 2001/02 Resource Management Plan

Priority Critical				Priority High						Priority Moderate		Priority Low		
sic Site tenance		Basic Trail Maintenance		Site Patrols		Backlog Replacement of structures		Annual Replacement of Structures		Site/Trail Rehabilitation		Site/Trail Development		Total $'s
	$	#	$	#	$	#	$	#	$	#	$	#	$	
9	345,000	46	100,000	54	47,000	406	200,000	2,359	111,000					
8	588,000	102	165,000	139	121,000	1,008	286,000	4,655	312,000					
0	292,000	168	106,000	54	48,000	348	146,000	2,842	260,000	Not included at this time				
2	347,000	87	116,000	55	48,000	594	167,000	2,696	150,000					
4	193,000	47	151,000	35	30,000	81	21,000	1,691	146,000					
5	772,000	141	203,000	159	139,000	633	285,000	4,574	388,000					
8	2,537,000	591	841,000	496	433,000	3,070	1,105,000	18,817	1,367,000					
Admin.		$95,000												
$3,473,000				$2,905,000										
3,820,000				$1,980,000										
4,202,000				$2,178,000										
4,623,000				$2,396,000										

is defined as clean out houses, tidy rake area, clean firepits, minor repairs to structures, pump toilets, collect garbage and manage hazard trees

refers to numbers of campgrounds and day use sites

is defined as clearing windfall, hazard trees and bush, maintaining trail tread and minor repairs to structures and markers.

refers to number of trails

refers to number of patrol days (2 person 8 hours shift)

covers overtime costs

f structures are for sites only, trail structures are not included at this time.

structures is based on a 10-year expected life of structures and so equals 10% of the total value of the structures.

rols and annual replacement of structures (backlog replacemernt of structures addressed in 2001-2002).

ncrease 10% per year

APPENDIX 4: Recreation / Visual Landscape Management for the 2001-02 Resource Management Plan

	# Districts	PRIORITY HIGH		PRIORITY MODERATE		PRIORITY LOW	
Region	**Reported**	**#**	**$**	**#**	**$**	**#**	**$**
Cariboo	0/5						
Kamloops	2/7	1	20,000				
Nelson	5/6	5	51,500	3	3,000		
Prince George	6/8	5	59,500	4	44,000		
Prince Rupert	4/6	1	5,000	5	125,000		
Vancouver	5/8	3	85,000	2	12,500	1	5,000
Headquarters	1/1	1	50,000	1	75,000		
Total		16	271,000	15	259,500	1	5,000
Total year 02-03			298,000		285,000		
Total year 03-04			327,000		313,500		
Total year 04-05			360,000		345,000		

Recreation / Visual Landscape Management Activities include:
- research, monitoring, operational trails and studies
- user surveys, analysis and development of data bases
- recreation, visual landscape, historic trail, access, cave and other plans

Recreation inventory activity is included under the Forest Inventory Component of the RMP

Total Years 2002 – 2005
- Figures in year 2002 – 2005 increase 10% per year

Research
Part 11 of the
Resource Management Plan
for the Vancouver Forest Region

PART 11
RESEARCH

11.0 Introduction

Forest Renewal BC has invested in research directly and indirectly since 1994. By the end of fiscal 2000/01, the corporation will have invested in 324 Research and Extension projects in the Pacific Region. These projects have been conducted over periods from one to five years, and they address all of Forest Renewal BC's strategic objectives:

▪ Sustainable harvest	35% of projects
▪ Enhance environmental values	11% of projects
▪ Strengthen sustainable forest management	40% of projects
▪ Other SO's	14% of projects

Forest Renewal BC's research strategy for 2001/2002 was designed to address knowledge gaps within each strategic objective. Research and extension priorities were addressed primarily through a separate, stand alone, detailed, needs analysis process specific to the Research program. This process consisted of a series of Regional workshops and a Provincial Think-Tank. The results of this process are captured in Part 11 of the RMP document.

In addition to the stand-alone process, information was solicited from stakeholders in the Vancouver Forest Region through the routine RMP development process. As a result of this, some project specific research needs were identified in the Enhanced Environmental Values component and this information is included in section 11.2. Research related issues identified through the normal RMP process in Sustainable Harvest but which were identified by proponents as studies rather than bone-fide research issues are included under Part 2 of this document. Some of these studies are continuations from previous years. Strengthen Sustainable Forest Management issues developed outside of the stand-alone research needs analysis are captured in Part 8 of this document. Some of these issues may have links to identified research needs.

With this focus, and building on collaborative initiatives from the past, the Research Program will use existing talent in B.C. to develop and advance the knowledge and skills that are needed by resource practitioners and policy-makers. Program objectives are to:

- have all research funding relate directly to Forest Renewal BC's strategic objectives,
- actively communicate research results to various audiences,

- base research investment decisions on priorities established in a collaborative manner, and
- link funded research projects to principles recognized at national and international levels.

To achieve these objectives, a four-stage investment planning process has been developed. The process engages resource and research practitioners at an early stage and will result in the targeted delivery of Forest Renewal BC's research dollars.

Stage 1:	Data collection and knowledge gap identification	May - August
Stage 2:	Analysis and priority-setting	August
Stage 3:	Call for proposals	October - December
Stage 4:	Review and award	January - March

Stages 1 and 2 are coordinated and delivered by the Southern Interior Forest Extension and Research Partnership (SIFERP). Stages 3 and 4 are being coordinated and administered by the Science Council of B.C. Each stage will involve collaboration with operational staff, experts in specific research areas, researchers, and community members.

In Stage 1, knowledge gaps in the natural resource sector were identified and linked to Forest Renewal BC's strategic objectives. These knowledge gaps were identified through existing reports, web links, the resource management planning process, and seven regional workshops.

Using information generated from Stage 1, Stage 2 consisted of a provincial working session. At that session, experts in specific areas of forest management synthesized information and identified Research and Extension priorities. Those priorities will be captured in a Provincial Concern Matrix and will be used to inform a directed call for proposals.

Stage 3 will incorporate Research and Extension priorities identified in Stage 2, plus investment amounts specified by Forest Renewal BC. This information will guide a directed call for proposals in October 2000. Completed proposals will be due by December 2000. Details of the application process will be available in early October on the Science Council of B.C. website at www.scbc.org

In Stage 4, the Science Council of B.C. will establish and coordinate peer review committees. Peer reviewers will use details related to Research and Extension priorities, pre-designated investment amounts, and established criteria to review and assess research proposals. Reviewers, through the Science Council of B.C., will make recommendations to Forest Renewal BC about research investment awards for fiscal 2001/05.

This collaborative process will bring about research results that support corporate strategic objectives, are priorities within the natural resource communities, and are technically sound.

11.1 Regional Research Issues and Concerns

There is an ongoing need for scientifically based information on which to base forest policy decisions and statutory rules and regulations. Decisions may be made according to the best available information, which may, or may not, be scientifically verifiable.

If the objective of sustainable, and certifiable, forestry is to be recognized, the need for continuous improvement means that research knowledge is an *essential ingredient* to link the present with the vision of the future. A well-focussed and adequately funded forest sector research strategy is thus a critical ingredient to the idea of continuous improvement.

The following summarizes the main regional research principles:

1) Best forest management practices should be founded on a solid, scientifically based, knowledge of forest ecosystems for a broad suite of forest resources.
2) The value to long-term research sites and studies in areas such as silviculture systems and watershed processes needs to be recognized as such studies provide data for future model development.
3) Research is needed on alternative management strategies. Areas of research include mixedwoods, partial cutting, identified species and forest health.
4) Existing research findings need to be made easily available, reviewed, synthesized, and communicated

Upon identification of the needs and call for proposals as outlined in Section 11.0 the following points are recommended:

- For the priority topic areas identified by strategic objective it is recommended that key people working in those areas should be identified and possibly used to co-ordinate projects
- There should be true collaboration on projects and not just identification of supporters.
- Allowance should be made for development of peer reviewed working plans. In many cases problem analyses should be first step, as there may be a significant amount of information that needs to be co-ordinated prior to commencement of additional work.

11.2 Listing of all Regional Research Issues

Forest Renewal BC Sustainable Harvest Objective

Forest Renewal BC will invest in the production of faster-growing, higher-quality stands of second-growth timber on lands available for timber production.

Priority knowledge gaps that could be filled through research and extension investments:

Top Six needs

	Resource of Concern
1	How can stand structures and spatial distributions on these issues (6, 49, 1, 23, 24, 49 in following list) in the landscape be integrated to meet the needs of habitat supply, timber supply and other forest values?
2	Can we predict future stand structures and dynamics under a full suite of silviculture regimes throughout all of BC's Productive Forest Land? How can we priories investments? How can we fund long-term G&Y Data collection and management on a continuing basis?
3	What are some socially acceptable alternatives (i.e. non-herbicide) for vegetation management on the provinces most productive sites and how do we monitor effectiveness on an operational scale (e.g. NIVMA)
4	What are the factors that determine resistance/susceptibility in conifers to stress agents (e.g. disease, insects, drought, cold)
5	Why can't we expand operational fertilization programs to western Hemlock stands on the coast? Why does D-fir respond consistently when hemlock does not?
6	What are the effects (quantifiable in terms of harvest levels and cut losses) of the different harvesting practices / silviculture systems on the incidence of intensity of forest pests? Root disease and mistletoes?

Sustainable Harvest

Sustainable Harvest
Increase the Volume, Value and Health of Second Growth Forest. Increase the amount of land available for commercial timber production. Support more informed silviculture investment decisions.

Sustainable Harvest Issue Identification

	Resource of Concern	Score
1	Have past attempts at non-clearcut silviculture systems affected Short term management objectives. (Regeneration, forest health, stand structure)?	3
2	Can we create and or maintain old-growth structure in new 2nd growth stands.	1
3	More information on how spacing at an early age actually affects rotation value / volume of a stand. Majority of $ for enhanced forestry is in spacing and may be detrimental for form, wood characteristics etc.	2
4	Which are the factors that determine resistance / susceptibility in conifer/pest interactions? Specific: Genetics of spruce and white pine weevil interaction?	3
5	Fertilization timing formulations, for various species and how to apply on a stand basis to best stand response?	1
6	TSA's have no management plans and no identified set of protection harvesting and renewal actions designed to achieve a future forest state that has the values the owners want. AAC is only set for the whole TSA By the CF. How can a strategy of research designed to enhance sustainable forestry be put in place where there is no plan of actions to manage the forest on TSA's?	4
7	How should high elevation forests be managed if we are to meet biodiversity, silviculture and other objectives?	2
8	Is winter range management for deer being successful?	
9	What are the impacts of various forms/intensities of partial harvesting on stand development and structure	2
10	How are we able to predict future growth and stand structures following various kinds of silviculture interventions using present predictive systems?	3
11	What is the ????? basis for sustainable forestry in BC	
12	How can we identify hemlock dominated stand which have the greatest potential of positive response to fertilization?	4
13	How do we address the issue of competing forest vegetation forest weeds particularly by using alternative methods to pesticide use?	3
14	How de we address the issue of retention variables, especially managing dwarf mistletoe/root rot intensification and dispersal	4
15	How do we better understand the population biology and structure of forest pests (i.e. diseases and weeds)	Link to 13
16	What are some strategies for forests 2020?	
17	What do we know about long term impacts of using alternatives to pesticides in forest ecosystems i.e. environmental fate and persistence	Link to 13
18	How to enhance productivity on managed sites	
19	What are the economic consequences of increased broadleaf management on the primarily conifer based industry in Coastal BC?	
20	What tools are needed for field staff to gauge soil disturbance?	
21	What are the long-term consequences of forest soil disturbances on site productivity?	
22	Can we predict response to silviculture treatments funded by FRBC that can be expected at time of harvest?	
23	What are the growth and yield implications of variable retention silviculture systems	Link to 10
24	What effects/implications does variable retention have on structure organisms, windthrow and	Link to 1

	forest health of stands?	
25	What is forage? How much is enough? How do we know when we've got it?	
26	What is/are the effect of alternative/different harvesting practices on the incidence and intensity of forest pests (E.g. root rot, insect, mistletoe)	Link to 14
27	What are the cost benefits of conducting pest management strategies (e.g. stump removal on root disease sites)	1
28	How does soil micro diversity affect site productivity?	
29	How can best collect data for calibration and testing of models to predict future stand structures and dynamics?	1
30	What are the potential pest problems that will occur in fast growing stands of conifers and hardwoods?	3
31	How does partial cutting interact with forest pests?	Link to 14
32	Is there an acceptable alternative to chem. Herbicides. Do bio herbicides offer that alternative for the treatment of competing species?	Link 13
33	What are the social, economic, and ecological impacts/contributions of non-timber resources?	
34	What relationships exist between habitat and silviculture and how do we extend this information to management planning?	1
35	What species/ecosystems respond to fertilization?	Link to 12
36	How do we assess productivity in uneven aged stands and how to map this at a forest level?	2
37	What g and y will be expected in multi-species or non-even aged silvicultural systems?	0
38	In NDT 1 forests with no disturbance and mainly old forests can these be harvested in a way that emulates natural disturbance?	Link to 2
39	Why can't we fertilize Western Hemlock stands on the coast of BC/ The most important tree species?	Link to 12
40	Since AAC is scenario in spatially based forest planning what is the state of knowledge and application and linkage between stand level silviculture actions to improve yield and AAC in forest level models?	
41	What are the best stand management practices to increase survival and growth of conifers in the submaritime zone?	Link to 27
42	What will be the impact of global warming on seed source regulations and what research will help in defining these regulations?	
43	What are the knowledge gaps that constrain the use of operation forest fertilization in BC	Link to 5
44	What silviculture will maximize carbon sequestering?	
45	What is the upper limit of productivity on our sites if maximizing tree growth is the primary management objective?	2
46	How does early stand density management (JS) compare to various commercial thinning regimes with regard to yield, value cost and social benefits?	1
47	Should FRBC fund intensified basic silviculture activities?	
48	What is the maximum productivity possible in BC forests with optimum nutrition?	Link to 45
49	Can we link results of research at the stand level to forest level planning methodology so that the research can impact harvest levels?	Link to 6

Forest Renewal BC Enhanced Environmental Values Objective

Forest Renewal BC will invest in restoring forest watersheds and in promoting environmental stewardship and strong environmental values in B.C.'s forests.

Priority knowledge gaps particularly in high-priority watersheds:

Top five resources of concern

Enhance Environmental Values

	(1) We need to measure and evaluate the effectiveness of current management and restoration practices. • Landslides from deactivated roads • Instream habitat utilization • Maintain rotational stand structure manage/restore windthrow prone areas • Herbicide alternatives • Validation of restoration technique (C/B analysis) • Pair watershed study • Effectiveness of terrain assessments
	(2) We need to better understand hydroriparian ecosystems in order to evaluate and improve management practices e.g. a) How do S5 and S6 streams interact with downstream fish habitat? b) What are the effects of windthrow on riparian reserve zones? c) What are the costs and benefits of various retention strategies?
	(3) We need to better understand and manage the effects of forest management on water quality and quantity. e.g. domestic water supply, peak flows and hydrologic recovery, partial cutting effects
	(4) We need to determine attributes of undisturbed reference ecosystems which can serve as restoration and management baselines. e.g. rates of stream channel change, natural landscape rates, riparian plant communities
	(5) We need to know more about sediment budgets in natural and managed watersheds. • ***in KARST ecosystems*** • ***relative amounts of sediments from roads vs. logged stream banks*** • ***effect of road deactivation on sediment budgets*** • ***landslide initiation - and consequence*** • ***effect of storm size and frequency on sediment budget***

Enhance Environmental Values

List of resources of concern

	Resource of Concern	Score (number of dots)
1	*Riparian Ecosystem Management* **What are the effects of current riparian management, and how do we improve practices?**	
2	**How do S5 and S6 streams interact with downstream fish habitat?**	
3	**How do "hydroriparian" ecosystems function and how are they affected (positively and negatively) by forest practices?**	
4	*Monitoring and Validation* **How can we measure and evaluate the effectiveness of current management and restoration practices?**	
5	**How will WRP projects be monitored, and by whom?**	
6	**How to monitor the results of terrain assessments?**	
7	**How effective are watershed restoration projects in the short and long term? (paired watershed study)?**	
8	*Effect of Forest Practices on Water Quality and Quantity* **How do we identify the risk to water users and structures associated with harvesting and road building in small steep watersheds?** **eg: gullies**	
9	**How do we maintain water quality, and quantity, when conducting forest operations?**	
10	**How can we meet domestic water standards in managed watersheds (especially intensive zones)?**	
11	**What is the effect of partial harvesting and road building on peak flows and hydrological recovery?**	
12	*Baseline Conditions* **At a subzone level, what is the historic stand variability/patch size/ disturbance regime in the Pacific Region (Vancouver Forest Region - VFR)?**	
13	**What are the environmental attributes we want to enhance or restore?**	
14	*Developing Best Management Practices* **What are the effects of variable retention on fungi?**	
15	**What are the costs/benefits (environmental, economic and social) of various retention strategies (patch size, longitivity of structural retention)?**	
16	**How do we best retain rotational stand structure to provide environmental values?**	
17	**How do we best manage/restore wind prone areas? (windthrow management)**	
18	**What "environmentally friendly" methods can be used for vegetation management under more open canopies due to variable retention?**	
19	**What alternatives to chemical pesticides can be developed for use in pesticide free zones (riparian zones)?**	
20	**How can landscape connectivity and ecological integrity be integrated into current forest harvest practices?**	
21	*Sediment Sources and Budgets* **What is the range of sediment budgets and bank stability regimes in undisturbed watersheds of varying sizes and scopes etc. in the Pacific Region (Vancouver Forest Region - VFR)?**	
22	**What are the relative contributions of road generated and streambank - logging generated sediment in streams?**	
23	**What is the role of man-made sediment sources in sediment budgets?**	
24	**How do we reduce the number of landslides and their consequences?**	

25	**What are the impacts of logging on karst - on water quality and soil stability? Can current practices be improved?**	
26	*Extension* **How can we get the best bang for our buck? How can we ensure that research resources are utilized to the maximum effectiveness?**	
27	**What is known about watershed and fish habitat in our region - and in BC? (inventories, data collection and collation)**	
28	**What is known about water quality for fish in our region and in BC? (inventories, data collection and collation)**	
29	**Will there be a defined list of research steps for a watershed (based on past successes and failures)?**	
30	**How do we exploit case history wisdom? How can we learn from successful and failed projects?**	
31	*Training* **How will the research be effectively transferred to the workforce - not just to other researchers and managers on Ministry of Forests?**	
32	**What role does training have in the process of turning information into knowledge and then into practice? How do move beyond extension to training?**	
33	**How do we maximize people power? How can we sustain the highest standards in human resource training and education?**	
34	*Socio-economic* **What is the importance of fish stocks to the economy of BC?**	
35	**How can we tell the BC "forest story"? How can we meet a consumer need for ecological excellence?**	
36	**What are the economic, social and biological costs/benefits of full protection of riparian management areas and watersheds?**	
37	**What is the importance of enhancing environmental values for First Nations?**	
38	*Non-Timber Forest Products* **How do we manage non-timber forest products harvesting to ensure environmental integrity?**	
39	*Modelling* **Is it feasible to create predictive econometric models for forest ecosystems?**	
40	*New Restoration Tools* **How can we restore wildlife and fish habitat in existing second growth? (Courtney to Campbell River - 30 to 40 year old forests)**	
41	**What is the efficacy and best use of nutrient replacement in watershed restoration?**	
42	*OTHER* **What is the impact of forest management practices on insectivorous bird populations, and consequently on forest pest populations?**	
43	**Will SHIM (sensitive habitat and mapping) play a role for urban watersheds?**	
44	**What non-timber forest product resources are not being fully utilized and how can we enhance their utilization?**	
45	**What is the impact of invasives on forest stand structures and succession in the CDF and dry CWH?**	
46	**How can we most cost effectively restore disturbed sites to "normal" successional pathways?**	

MYA Holder specific Enhance Environmental Value issues

MYA	Holder	Issue and Rationale	Partner	Area	Priority	# Years	$ x 1000
PAM 99813	Husby	Anadromous fish population studies - Little information is known about anadromous fish populations in Cave, Naden, and Tartu watersheds.	Old Masset	DQC	High	2	100
PAM 99813	Husby	The effectiveness of bio-engineering for slope stabilization. - To determine the conditions under which bio-engineering techniques can be applied in order obtain a significant improvement in slope stabilization.	Old Masset	DQC	High	1	50
PAM 01607	Weyerhaeuser	Updated Overview Plan - CWAP ? An overview to redefine priorities within sub - basins and watersheds		DPM			
PAM 01607	Weyerhaeuser	Sediment Sources - Upslope Seeding of Slides -		DPM			
PAM 01607	Weyerhaeuser	Sediment Sources - Sediment Sources - buttressing cut slopes / seeding of sites above streams		DPM			
PAM 01707	Weyerhaeuser	Updated Overview Plan - CWAP ? An overview to redefine priorities within sub - basins and watersheds		DMC			
PAM 01707	Weyerhaeuser	Sediment Sources - Upslope Seeding of Slides -		DMC			
PAM 01707	Weyerhaeuser	Sediment Sources - Sediment Sources - buttressing cut slopes / seeding of sites above streams		DMC			
PAM 98708	Interfor	Explore the effectiveness of various methods used to return excavated side channels to nutrient health. Commonly three techniques are use; fertilizer pellets, salmon carcasses, or leave as is. How do these techniques contrbute to stream health and ultimately to fish population health?	MELP, DFO	Mid Coast	High	4	65
	MELP	Determine effectiveness of fish production in constructed overwinter ponds - Construction of and new access to overwinter pond habitat is necessary for life stages of salmonids. Effectiveness of this habitat must be evaluated to determine future similar projects		DMC	High	3	60
	MELP	Determine long term stability of instream structures of different anchoring techniques - Different anchoring techniques are used for stabilizing instream structures.		DMC	High	1	15

Forest Renewal BC Strengthen Sustainable Forest Management Objective

Forest Renewal BC will invest in the development of relevant, usable, timely information and tools keyed to achieving sustainable forest management.

Priority knowledge gaps associated with longer-term strategic needs keyed to sustainable forest management:

Strengthening Sustainable Forest Management

Six top Issues

1.	How do we incorporate social and economic concerns into sustainable forest (land-use) management (e.g., social values, non timber value, trade offs, First nations collaboration, communities in transitions, policy evaluation, conflict resolution mechanism, public involvement in decision making)?
2.	How do we integrate, maintain and update forest resources inventories, projections and monitoring across temporal and spatial scales and variables? This includes integrating modeling effort of complex stands, from stand to forest level.
3.	How do we project process level information to predict probable nature and distributions of patterns and fluxes at the landscape level, including: • provide and test models and provide data that explicitly link spatial patterns (e.g. edge, connectivity, adjacency), historical and projected disturbance regimes, and driving variables (e.g. climate); and, • develop a framework that allows scaling from processes to landscapes and vice versa?
4.	Why is the spotted owl declining and how do we determine habitat requirements (i.e. home range size, habitat selection); determine effectiveness of current management practices; and, collect demographic data?
5.	Are current forest management practices sustaining landscape managed species at risk (habitats, populations). Initial priorities include Grizzly bear, Marbled Murrelet, Spotted Owl, Northern Goshawk, riparian obligates (e.g., tailed frog).
6.	How do we project changes in stands (tree G/Y; non-woody veg. and shrubs; habitat etc.) for a wide range of management regimes that result in complex stands (e.g. patch and retention cutting)? a) timber G/Y, particularly regen, dwarf mistletoe, hardwoods, edge effect b) habitat over time c) disturbance risk

Strengthening Sustainable Forest Management Issues Identification

1.	What types of habitat are spotted owl selecting for – getting idea of the quality and quantity of the habitat size?
2.	How do we select and then manage habitat stands over time to recruit habitat characteristics?
3.	How do we model complex stands over time and how do we record in inventory?
4.	How do we project changes in the forest for a wide range of management regimes (timber and non-timber) Examples include regeneration in partial cutting, variable retention harvesting, dwarf mistletoe, etc.?
5.	How do we link and correlate information across scales and variables ?
6.	How do we evaluate whether the information available is really applicable to landscape processes – dynamic systems?
7.	To what extent we can predict natural disturbances on temporal and spatial scales – do we have the tools for that?
8.	How can we accommodate predictions of natural disturbances into management decisions?
9.	How do we disaggregate and quantify the impact of various code reserves on timber supply, biodiversity etc.?
10.	How do we ensure that the results of research are good enough (monitoring)?
11.	Are current policies and guidelines for managing landscapes for species at risk adequate (Marbled Murrelet, Spotted Owl, Grizzly bear and Northern Goshawk)?
12.	How do we link social and economic concerns with ecological concerns in research?
13.	Why is the Spotted Owl population declining?
14.	Do riparian management guidelines serve to maintain water quality - do they achieve their intended objectives?
15.	How do coastal grizzly bears, their habitat and salmon interact?
16.	How do we assemble, organize, and disseminate research (e.g. riparian ecosystem) to appropriate end uses (e.g., workshop)?
17.	What needs to be done for riparian headwater streams (downstream fish protection, protecting steep terrain, down stream fish protection, unique habitat)?
18.	Are the FPC stream classification and management guidelines appropriate for riparian management, how do you define the various classifications – what are temperature sensitive streams?
19.	How do we maintain scientific rigor and quality control in research and inventory?
20.	How to integrate modeling effort of complex stands from stand level to forest level (TSR)?
21.	How do you connect people to the process of sustainable forest management?
22.	How will uncertainty and changes in ownership (e.g., First Nation land claims) affect our ability to manage the resources?
23.	How will air quality from urban areas (e.g. nitrogen and other contaminants) affect forest ecosystems and forest management and how will forests affect air quality?
24.	How do international issues and objectives affect SFM in this region?
25.	How can we improve landscape level modeling and visualization tools?
26.	How do we anticipate the effects of climatic region shifts on forest management and disturbance type?
27.	How do we calibrate and test the effectiveness of indicators for biodiversity?
28.	How do we support communities in transition?
29.	How do we collaborate with First Nations?
30.	How can we model the trade offs between ecological, social and economic values?
31.	Are rare and endangered ecosystems adequately represented within the landscape?
32.	What are the effects of edge and fragmentation as they pertain to OGMAs?
33.	What are the specifics of Course Woody Debris regulations relative to various species and ecosystems and relative to Ministry utilization standards?
34.	How do we practice SFM in a way that is acceptable to public and customers and is still cost effective?
35.	Do landscape unit designs meet biodiversity conservation objectives (Resource Management)?
36.	Are inventory techniques for wildlife adequate (wildlife management). Need to develop attribute

	function criteria for forest descriptors then tie to inventory for habitat supply modeling (Inventory)?
37.	Can buffers (riparian) provide multi species habitats?
38.	How can we quantify "Problem" and "non-merchantable" forest types for TSR?
39.	Are Marbled Murrelets adequately managed within old growth management areas?

Key Themes

1. Wild Life/Habitat	**1, 11, 13, 15,**	**10 votes**
2. Stand Dynamics	**2, 3, 4, 17,**	**18 votes**
3. Inventory	**5, 6, 9, 10, 20,**	**8 votes**
4. Landscape dynamics	**7, 8, 20, 25, 26, 32**	**15 votes**
5. Integration	12	1 vote
6. Code impacts	18, 14	5 votes
7. Research Management	19,	no votes
8.Socio Economics	**21, 22, 24, 25, 28, 29, 30, 34.**	**12 votes**
9. Air	23,	no votes
10. Ecosystem management	27, 31, 33	6 votes
11. Extension	16	no votes

11.2.1 Completion of Template for each priority issue.

Sustainable Harvest ISSUE 1 (6, 49, 1, 23, 24, 49)

<table>
<tr><td>Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).</td><td colspan="7">How can stand structures and spatial distributions on these in the landscape be integrated to meet the needs of habitat supply, timber supply and other forest values?</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue</td><td colspan="7">Arbitrary constraints on land use and possible treatments resulting from blanket prescriptions can result in sub optimal plans.</td></tr>
<tr><td>Step 3. Primary ecosystem</td><td colspan="7">All</td></tr>
<tr><td>Step 4. Key partners</td><td colspan="7">Government, industry, communities, academia, tribal councils, special interest groups.</td></tr>
<tr><td>Step 5. Temporal Scale of importance</td><td colspan="7">Immediate Urgent</td></tr>
<tr><td>Step 6. Spatial Scale</td><td colspan="7">Forest landscape and watershed</td></tr>
<tr><td>Step 7. Specific links to strategic plan content</td><td colspan="7">LRMP, Landscape plan, TSR</td></tr>
<tr><td>Step 8. Strategic Objectives (tick 1 that best applies):</td><td>SH
X</td><td>EEV</td><td>SSFM
X</td><td>C&I</td><td>VA</td><td>CO</td><td>WF</td></tr>
<tr><td colspan="3">Region: VFR/Pacific</td><td colspan="5">Mgmt. Unit:</td></tr>
<tr><td colspan="8">Are you aware of research in your region that addresses this problem? If so, please provide details.
Atlas/SIMFOR, Weyco Pilot Project EEFMP, McGregor Model Forest</td></tr>
</table>

Sustainable Harvest ISSUE 2 (39,6,29,36)

<table>
<tr><td>Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).</td><td colspan="7">Can we predict future stand structures and dynamics under a full suite of silviculture regimes throughout all of BC's Productive Forest Land?
How can we priories investments?
How can we fund long-term G&Y Data collection and management on a continuing basis?</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue</td><td colspan="7">FPC guidebooks.
Harvest and forest planning
TSR, Landscape Plans</td></tr>
<tr><td>Step 3. Primary ecosystem</td><td colspan="7">All</td></tr>
<tr><td>Step 4. Key partners</td><td colspan="7">Government, Industry and academia</td></tr>
<tr><td>Step 5. Temporal Scale of importance</td><td colspan="7">Immediate and Urgent and Greater than five years
A start is urgent and the need is long term.</td></tr>
<tr><td>Step 6. Spatial Scale</td><td colspan="7">Provincial as it will guide the TSR process</td></tr>
<tr><td>Step 7. Specific links to strategic plan content</td><td colspan="7">Land use plans and TSR</td></tr>
<tr><td>Step 8. Strategic Objectives (tick 1 that best applies):</td><td>SH
X</td><td>EEV</td><td>SSFM
X</td><td>C&I</td><td>VA</td><td>CO</td><td>WF</td></tr>
<tr><td colspan="3">Region: VFR/Pacific</td><td colspan="5">Mgmt. Unit:</td></tr>
<tr><td colspan="8">Are you aware of research in your region that addresses this problem? If so, please provide details.
Forest Productivity Council and Associated Working groups are coordinating and priorizing work?
MOF research branch plus industry cover a small portion of the species and silvicultural treatments that are involved.</td></tr>
</table>

Sustainable Harvest **ISSUE 3 (13, 32, 17)**

Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).	What are some socially acceptable alternatives (i.e. non-herbicide) for vegetation management on the provinces most productive sites and how do we monitor effectiveness on an operational scale (e.g. NIVMA)
Step 2. Management Practice or Policy affecting issue	Certification Less reliance on herbicides Silviculture practices regulations
Step 3. Primary ecosystem	Most productive timber sites
Step 4. Key partners	Industry, University, MOF, CFS
Step 5. Temporal Scale of importance	Immediate and Urgent
Step 6. Spatial Scale	Stand level
Step 7. Specific links to strategic plan content	TSR

Step 8. Strategic Objectives (**tick 1 that best applies**):	**SH** **X**	**EEV**	**SSFM** **X**	**C&I**	**VA**	**CO**	**WF**

Region: VFR/Pacific	**Mgmt. Unit:**

Are you aware of research in your region that addresses this problem? If so, please provide details.

NIVMA in Northern interior-no similar system on coast
ada Land Inventory maps; identify most productive sites
CFS, MOF, University, Industry
CFS working on biological alternatives

Sustainable Harvest ISSUE 4 (30,4)

<table>
<tr><td>Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).</td><td colspan="7">What are the factors that determine resistance/susceptibility in conifers to stress agents (e.g. disease, insects, drought, cold)</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue</td><td colspan="7">Tree improvement risk factors
Species selection criteria (guidebooks) silviculture planning</td></tr>
<tr><td>Step 3. Primary ecosystem</td><td colspan="7">All zones</td></tr>
<tr><td>Step 4. Key partners</td><td colspan="7">MOF, CFS, Universities and Industry</td></tr>
<tr><td>Step 5. Temporal Scale of importance</td><td colspan="7">Address immediately and support long term</td></tr>
<tr><td>Step 6. Spatial Scale</td><td colspan="7">Province</td></tr>
<tr><td>Step 7. Specific links to strategic plan content</td><td colspan="7"></td></tr>
<tr><td>Step 8. Strategic Objectives (tick 1 that best applies):</td><td>SH
X</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA</td><td>CO</td><td>W F</td></tr>
<tr><td colspan="3">Region: VFR/Pacific</td><td colspan="5">Mgmt. Unit:</td></tr>
<tr><td colspan="8">Are you aware of research in your region that addresses this problem? If so, please provide details.
CFS, PFC, LFC MOF research Branch
UBC forest science, biotech
SFU department of biology</td></tr>
</table>

Sustainable Harvest ISSUE 5 (12, 39, 35)

Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).	Why can't we expand operational fertilization programs to western Hemlock stands on the coast???? Why does D-fir respond consistently when hemlock does not?
Step 2. Management Practice or Policy affecting issue	Operational aerial forest fertilization of stands with density control Silviculture Prescriptions, Stand management prescriptions Silviculture Practices
Step 3. Primary ecosystem	CWH and all stands with Western Hemlock as lead species
Step 4. Key partners	CFS, UBC, BCMOF, Companies
Step 5. Temporal Scale of importance	Immediate Urgent
Step 6. Spatial Scale	Stand and forest level
Step 7. Specific links to strategic plan content	

Step 8. Strategic Objectives (tick 1 that best applies):	**SH** **X**	**EEV**	**SSFM**	**C&I**	**VA**	**CO**	**W F**

Region: VFR/Pacific	**Mgmt. Unit:**

Are you aware of research in your region that addresses this problem? If so, please provide details.

Trails by Carter Coastal Stands showed little response.
B White (PhD) UBC –hemlock physiology to explain response
EP703,
SMFRF
Workshop a PHC to review knowledge
US experience

Sustainable Harvest **ISSUE 6 (26, 14, 31)**

<table>
<tr><td>Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).</td><td colspan="7">What are the effects (quantifiable in terms of harvest levels and cut losses) of the different harvesting practices / silviculture systems on the incidence of intensity of forest pests? Root disease and mistletoes?</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue</td><td colspan="7">Related FPC guidebooks, regulations
Forest certification, worker safety
Logging practices costs
Has impacts on Timber supply
Communities reliant on Wood supply.</td></tr>
<tr><td>Step 3. Primary ecosystem</td><td colspan="7">All zones</td></tr>
<tr><td>Step 4. Key partners</td><td colspan="7">Industry, communities forest Nations, MOF MELP</td></tr>
<tr><td>Step 5. Temporal Scale of importance</td><td colspan="7">Immediate and Urgent</td></tr>
<tr><td>Step 6. Spatial Scale</td><td colspan="7">Provincial</td></tr>
<tr><td>Step 7. Specific links to strategic plan content</td><td colspan="7">Has application and implication for all plans.</td></tr>
<tr><td>Step 8. Strategic Objectives (tick 1 that best applies):</td><td>SH
X</td><td>EEV</td><td>SSFM
X</td><td>C&I</td><td>VA</td><td>CO</td><td>WF</td></tr>
<tr><td colspan="3">Region: VFR/Pacific</td><td colspan="5">Mgmt. Unit:</td></tr>
<tr><td colspan="8">Are you aware of research in your region that addresses this problem? If so, please provide details.
MASS, Roberts Creek
CFS PF Centre
USDA FS</td></tr>
</table>

Strengthening Sustainable Forest Management ISSUE 1

Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).	How do we incorporate social and economic concerns into sustainable forest (land-use) management (e.g., social values, non timber value, trade offs, First nations collaboration, communities in transitions, policy evaluation, conflict resolution mechanism, public involvement in decision making)?
Step 2. Management Practice or Policy affecting issue	Public consultation and participation processes, public decision, policy development, management plans
Step 3. Primary ecosystem	All forested ecosystems
Step 4. Key partners	Communities, Industry, Agencies, First Nations, all stakeholders
Step 5. Temporal Scale of importance	**Immediate/Urgent Within 5 years Greater than 5 years** **Immediate to Greater than 5 years**
Step 6. Spatial Scale	Stand/waterway Forest Landscape Watershed District Region Province International Forest, Region
Step 7. Specific links to strategic plan content	Eg. LRMP, Landuse plan, timber supply review All

Step 8. Strategic Objectives (**tick 1 that best applies**):	**SH**	**EEV**	**SSFM** **X**	**C&I**	**VA**	**CO** **X**	**WF**

Region: VFR/Pacific	**Mgmt. Unit:**

Are you aware of research in your region that addresses this problem? If so, please provide details.

Strengthening Sustainable Forest Management **ISSUE 2**

Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).	How do we integrate, maintain and update forest resources inventories, projections and monitoring across temporal and spatial scales and variables? This includes integrating modeling effort of complex stands, from stand to forest level.
Step 2. Management Practice or Policy affecting issue	Funding, RIC, e.g. Grizzly bear management strategy
Step 3. Primary ecosystem	All of them
Step 4. Key partners	Government, First Nations, Licences, Consultants, Academia and NGTO
Step 5. Temporal Scale of importance	**Immediate/Urgent** **Within 5 years** **Greater than 5 years** **Immediate/Urgent**
Step 6. Spatial Scale	Stand/waterway Forest Landscape Watershed District Region Province International All of the above
Step 7. Specific links to strategic plan content	Eg. LRMP, Land use plan, timber supply review All of the above

Step 8. Strategic Objectives **(tick 1 that best applies):**	**SH** **X**	**EEV**	**SSFM**	**C&I** **X**	**VA**	**CO**	**WF**

Region: VFR/Pacific	**Mgmt. Unit:**

Are you aware of research in your region that addresses this problem? If so, please provide details.

RIC, JST & UBC (monitoring program, VRI update, VDUP7, TASS. MoF - RIB & Research Branch prognosis, etc

Strengthening Sustainable Forest Management ISSUE 3

<table>
<tr><td>Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).</td><td colspan="7">How do we project process level information to predict probable nature and distributions of patterns and fluxes at the landscape level, including:
▪ provide and test models and provide data that explicitly link spatial patterns (e.g. edge, connectivity, adjacency), historical and projected disturbance regimes, and driving variables (e.g. climate); and,
▪ develop a framework that allows scaling from processes to landscapes and vice versa?</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue</td><td colspan="7">AAC, LRMP, Land use Plan, tenure</td></tr>
<tr><td>Step 3. Primary ecosystem</td><td colspan="7">All</td></tr>
<tr><td>Step 4. Key partners</td><td colspan="7">All</td></tr>
<tr><td>Step 5. Temporal Scale of importance</td><td colspan="7">Immediate/Urgent Within 5 years Greater than 5 years
Immediate within 5 years</td></tr>
<tr><td>Step 6. Spatial Scale</td><td colspan="7">Stand/waterway Forest Landscape Watershed District Region Province International
Landscape, watershed, Region, District</td></tr>
<tr><td>Step 7. Specific links to strategic plan content</td><td colspan="7">Eg. LRMP, Landuse plan, timber supply review – Yes</td></tr>
<tr><td>Step 8. Strategic Objectives (tick 1 that best applies):</td><td>SH
X</td><td>EEV
X</td><td>SSFM</td><td>C&I
x</td><td>VA</td><td>CO</td><td>WF</td></tr>
<tr><td colspan="3">Region: VFR/Pacific</td><td colspan="5">Mgmt. Unit:</td></tr>
<tr><td colspan="8">Are you aware of research in your region that addresses this problem? If so, please provide details.
Atlas – Simfor Models; insect outbreak histories (CFS); Telsa (MoF); riparian mgt. Expt (UBC)</td></tr>
</table>

Strengthening Sustainable Forest Management ISSUE 4

Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).	Why is the spotted owl declining and how do we determine habitat requirements (i.e. home range size, habitat selection); determine effectiveness of current management practices; and, collect demographic data?
Step 2. Management Practice or Policy affecting issue	Spotted Owl Management Plan; elimination of known spotted owl sites, assumption of what suitable owl habitat is, effect of landscape unit planning to protect matrix sites etc. forest health issues
Step 3. Primary ecosystem	CWHDs, CWHMs, MH, IDF, ESSF, Squamish, Chilliwack, Merrit, Lillooet Forest Districts
Step 4. Key partners	MOF, MELP, Industry, First nations, NGOs forest dependent communities
Step 5. Temporal Scale of importance	**Immediate/Urgent Within 5 years Greater than 5 years** **Immediate**
Step 6. Spatial Scale	Stand/waterway Forest Landscape Watershed District Region Province International Vancouver Forest Region.
Step 7. Specific links to strategic plan content	Eg. LRMP, Landuse plan, timber supply review – Higher level plan landscape unit plans and all of the identified

Step 8. Strategic Objectives (**tick 1 that best applies**):	**SH** **X**	**EEV**	**SSFM**	**C&I**	**VA**	**CO**	**WF**

Region: VFR/Pacific	**Mgmt. Unit:**

Are you aware of research in your region that addresses this problem? If so, please provide details.

No

Strengthening Sustainable Forest Management ISSUE 5

Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).	Are current forest management practices sustaining landscape managed species at risk (habitats, populations). Initial priorities include Grizzly bear, Marbled Murrelet, Spotted Owl, Northern Goshawk, riparian obligates (e.g., tailed frog).
Step 2. Management Practice or Policy affecting issue	LUP guidebook, Biodiversity Guidebook, Managing Identified Wildlife Guidebook, Riparian Guidebook, Higher Level 1 Planning, Grizzly Bear Conservation Management Strategy, Spotted Owl Management Strategy
Step 3. Primary ecosystem	CWM, MH, (CDF)
Step 4. Key partners	Industry, MOF, MELP, First Nations, Public
Step 5. Temporal Scale of importance	**Immediate/Urgent Within 5 years Greater than 5 years** **Immediate**
Step 6. Spatial Scale	Stand/waterway Forest Landscape Watershed District Region Province International All stands
Step 7. Specific links to strategic plan content	Eg. LRMP, Landuse plan, timber supply review

Step 8. Strategic Objectives (**tick 1 that best applies**):	**SH** **X**	**EEV**	**SSFM**	**C&I** **X**	**VA**	**CO**	**V** **F**

Region: VFR/Pacific	**Mgmt. Unit:**

Are you aware of research in your region that addresses this problem? If so, please provide details.

Strengthening Sustainable Forest Management ISSUE 6

<table>
<tr><td>Step 1: Problem statement for resource or issue of concern. (Put in the form of a question).</td><td colspan="7">How do we project changes in stands (tree G/Y; non-woody veg. and shrubs; habitat etc.) for a wide range of management regimes that result in complex stands (e.g. patch and retention cutting)?
a) timber G/Y, particularly regen, dwarf mistletoe, hardwoods, edge effect
b) habitat over time
c) disturbance risk</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue</td><td colspan="7">Plans - harvest, LUP, TSA, IFPAs</td></tr>
<tr><td>Step 3. Primary ecosystem</td><td colspan="7">All coastal forests - extends, mostly t all ecosystems of BC</td></tr>
<tr><td>Step 4. Key partners</td><td colspan="7">First Nations as land owners, Licensees, communities, MoF/MoE planners</td></tr>
<tr><td>Step 5. Temporal Scale of importance</td><td colspan="7">Immediate/Urgent Within 5 years Greater than 5 years
Immediate and long terms</td></tr>
<tr><td>Step 6. Spatial Scale</td><td colspan="7">Stand/waterway Forest Landscape Watershed District Region Province International
Leads to analysis/decisions at all higher levels.</td></tr>
<tr><td>Step 7. Specific links to strategic plan content</td><td colspan="7">Eg. LRMP, Landuse plan, timber supply review
All planning processes</td></tr>
<tr><td>Step 8. Strategic Objectives (tick 1 that best applies):</td><td>SH
X</td><td>EEV</td><td>SSFM</td><td>C&I
X</td><td>VA</td><td>CO</td><td>WF</td></tr>
<tr><td colspan="3">Region: VFR/Pacific</td><td colspan="5">Mgmt. Unit:</td></tr>
<tr><td colspan="8">Are you aware of research in your region that addresses this problem? If so, please provide details.
Universities: UBC, Uvic, SFU, University of Alberta
MoF: Inventory, Research, Forest Practices Branch
MOE: (e.g. snag development); Companies. Co-ordinated by: Forest Productivity, Health, Biodiversity Councils</td></tr>
</table>

Enhance Environmental Values

Issue # 1	*Votes received at plenary session:* **11**
Step 1. Problem Statement for Resource or Issue of Concern (put in the form of a question)	We need to measure and evaluate the effectiveness of current management and restoration practices. • Landslides from deactivated roads • Instream habitat utilization • Maintain rotational stand structure manage/restore windthrow prone areas • Herbicide alternatives • Validation of restoration technique (C/B analysis) • Pair watershed study • Effectiveness of terrain assessments
Step 2. Management Practice or Policy affecting issue	Forest practices and restoration practices
Step 3. Primary ecosystem	ALL
Step 4. Key partners	Industry, forest agencies, academia, communities, First Nations, Community Resource Boards, ENGOs
Step 5. Temporal Scale of importance	[✓ Immediate/urgent] Within 5 years Greater than 5 years
Step 6. Spatial Scale	[✓ Stand/waterway] [✓ Forest] [✓ Landscape] [✓ Watershed] District [✓ Region] Province International
Step 7. Specific links to strategic plan content	VILUP, TSR (TSAs), MP (TFLs)

	SH	EEV	SSFM	C&I	VA	CO	WF
Step 8. Strategic Objectives: (tick one that best applies)	2	1	3				

Region: VFR/Pacific	**Mgmt. Unit: All**

Are you aware of research in your region that addresses this problem? If so, please provide details.

Yes - Keogh/Waukwass (WRP Demonstration Watershed)
Windfall - UBC, MoF, UVIC
Terrain - UBC

Enhance Environmental Values

Issue # 2	*Votes received at plenary session:* **11**
Step 1. Problem Statement for Resource or Issue of Concern (put in the form of a question)	We need to better understand and manage the effects of forest management on water quality and quantity. e.g. domestic water supply, peak flows and hydrologic recovery, partial cutting effects
Step 2. Management Practice or Policy affecting issue	Road standards Rate of Harvest Harvest system Forest Practices Code
Step 3. Primary ecosystem	ALL
Step 4. Key partners	Community Water Boards, Regional Districts, DFO, MoF, MELP, forest industry
Step 5. Temporal Scale of importance	[✓ Immediate/urgent] Within 5 years Greater than 5 years
Step 6. Spatial Scale	Stand/waterway Forest Landscape [✓ Watershed] District [✓ Region] Province International Especially Vancouver watershed
Step 7. Specific links to strategic plan content	LRMP, Vancouver ILUP

	SH	EEV	SSFM	C&I	VA	CO	WF
Step 8. Strategic Objectives: (tick one that best applies)		1	2	3			

Region: **VFR/Pacific**	**Mgmt. Unit: All**

Are you aware of research in your region that addresses this problem? If so, please provide details.

Yes
Carnation Creek
Roberts Creek
Chapman Creek
Water Quality Inventory program

Enhance Environmental Values

<table>
<tr><td>Issue # 3</td><td colspan="7"><i>Votes received at plenary session:</i> 6</td></tr>
<tr><td>Step 1. Problem Statement for Resource or Issue of Concern (put in the form of a question)</td><td colspan="7">We need to better understand hydroriparian ecosystems in order to evaluate and improve management practices
e.g.
a) How do S5 and S6 streams interact with downstream fish habitat?
b) What are the effects of windthrow on riparian reserve zones?
c) What are the costs and benefits of various retention strategies?</td></tr>
<tr><td>Step 2. Management Practice or Policy affecting issue</td><td colspan="7">FPC and Riparian management guidebook</td></tr>
<tr><td>Step 3. Primary ecosystem</td><td colspan="7">All forested ecosystems</td></tr>
<tr><td>Step 4. Key partners</td><td colspan="7">Provincial government, forest industry, DFO, universities</td></tr>
<tr><td>Step 5. Temporal Scale of importance</td><td colspan="7">[✓ Immediate/urgent] Within 5 years Greater than 5 years</td></tr>
<tr><td>Step 6. Spatial Scale</td><td colspan="7">Stand/waterway Forest Landscape [✓ Watershed] District [✓ Region] [✓ Province] International</td></tr>
<tr><td>Step 7. Specific links to strategic plan content</td><td colspan="7">CCLC LRMP, Timber Supply Review</td></tr>
<tr><td rowspan="2">Step 8.
Strategic Objectives:
(tick one that best applies)</td><td>SH</td><td>EEV</td><td>SSFM</td><td>C&I</td><td>VA</td><td>CO</td><td>WF</td></tr>
<tr><td></td><td>1</td><td>2</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="3">Region: Pacific/VFR</td><td colspan="5">Mgmt. Unit: All</td></tr>
<tr><td colspan="8">Are you aware of research in your region that addresses this problem? If so, please provide details.
Some research around slash in S5 and S6 streams
Also Roberts Creeks study</td></tr>
</table>

Enhance Environmental Values

Issue # 4	*Votes received at plenary session:* **6**
Step 1. Problem Statement for Resource or Issue of Concern (put in the form of a question)	We need to know more about sediment budgets in natural and managed watersheds. • ***in KARST ecosystems*** • ***relative amounts of sediments from roads vs. logged stream banks*** • ***effect of road deactivation on sediment budgets*** • ***landslide initiation - and consequence*** • effect of storm size and frequency on sediment budget
Step 2. Management Practice or Policy affecting issue	Road construction and deactivation Forest Practices Code
Step 3. Primary ecosystem	All
Step 4. Key partners	Government, industry and academia
Step 5. Temporal Scale of importance	Immediate/urgent Within 5 years Greater than 5 years
Step 6. Spatial Scale	Stand/waterway Forest Landscape [✓ Watershed] District Region Province International
Step 7. Specific links to strategic plan content	

	SH	EEV	SSFM	C&I	VA	CO	WF
Step 8. Strategic Objectives: (tick one that best applies)		1	2				

Region: Pacific/VFR	**Mgmt. Unit: All**

Are you aware of research in your region that addresses this problem? If so, please provide details.

Yes
- Tsitika
- Chapman (Dan Hogan)

Enhance Environmental Values

Issue # 5	*Votes received at plenary session:* 3
Step 1. Problem Statement for Resource or Issue of Concern (put in the form of a question)	We need to determine attributes of undisturbed reference ecosystems which can serve as restoration and management baselines. e.g. rates of stream channel change, natural landscape rates, riparian plant communities
Step 2. Management Practice or Policy affecting issue	Affects all practice and policy development - **need to know what we are restoring to**
Step 3. Primary ecosystem	First priority: CDF, low elevation CWH sites Very little undisturbed remains
Step 4. Key partners	Local licensees Look for historic info - memory, archives of agencies, First Nations knowledge DND lands for CDF sites
Step 5. Temporal Scale of importance	[✓ Immediate/urgent] Within 5 years Greater than 5 years Most watersheds are already disturbed - not good references in many cases, must be done quickly and comprehensively
Step 6. Spatial Scale	[✓ Stand/waterway] [✓ Forest] Landscape [✓ Watershed] District Region Province International Watersheds are first priority
Step 7. Specific links to strategic plan content	This infor would be input to LRMP

	SH	EEV	SSFM	C&I	VA	CO	WF
Step 8. Strategic Objectives: (tick one that best applies)		1		2			

Region: Pacific/VFR	**Mgmt. Unit: All**

Are you aware of research in your region that addresses this problem? If so, please provide details.

Yes - includes both terrestrial and riparian:

- Coastal Forest Chronosequences
- Some work within Clayoquot Biosphere Project
- Some archives in Federal Fisheries and Oceans
- Some of the BEC work